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Do Local Institutions Matter? A Multilevel Examination Of The Effects Of Neighborhood Churches And Service Providers On Parolee Outcomes

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ABSTRACT

DO LOCAL INSTITUTIONS MATTER? A MULTILEVEL EXAMINATION OF THE EFFECTS OF NEIGHBORHOOD CHURCHES AND SERVICE PROVIDERS ON PAROLEE OUTCOMES

BY

REBECCA ANN HEADLEY

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Each year 700,000 to 800,000 parolees are released prison and are returned to the community (Durose, Cooper, & Snyder 2014; Porter, 2011; West, Sabol, Greenman, 2010), of whom approximately two-thirds will be reincarcerated within the three years following their releases (Durose et al., 2014). Although, scholars have pointed to parolees' needs of services and resources (Hipp, Petersilia, & Turner, 2010), the majority of the literature has been limited to the examination of individual-level predictors of parolee outcomes.

The current study aims to extend the parolee literature by identifying whether or not neighborhood disadvantage, mobility, and local institutions (i.e., churches, service providers) have an effect on parolee outcomes. To examine these effects, data on 3,077 parolees living within 209 Census block groups across Philadelphia, Pennsylvania were obtained from the Pennsylvania Department of Corrections (PA DOC) and the Pennsylvania Board of Probation and Parole (PBPP). Furthermore, parolee outcome data were disaggregated by the behavior resulting in reincarceration [i.e., the commission of a new crime (CPV), technical parole violation (TPV)], as well as the length of time between release from prison and reincarceration.

A series of multilevel models (HLM) were conducted to examine the effects of neighborhood-level and individual-level predictors of parolee reincarceration, as well as how these effects differed for CPVs versus TPVs, and varied across time.

Based on results from the analyses, parolee outcomes were to some extent effected by neighborhood context and institutions (i.e., Evangelical Protestant churches, service providers). Additionally, neighborhood-level and individual-level effects varied based on the reason for reincarceration, and the amount of time that passed between release from prison and reincarceration. Lastly, although DOC referred service providers did not have a direct effect on parolee reincarceration, there were significant interaction effects with disadvantage, such that the effects of DOC service providers decreased the odds of reincarceration in more disadvantaged neighborhoods. The conditional effects of DOC service providers by level of neighborhood disadvantage highlights the need for service providers within such communities. Further investigation of neighborhood context, and the placement of much needed resources in communities where parolees reside, may be advantageous in increasing success amongst parolees.

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BY

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ACCEPTANCE

This dissertation was prepared under the direction of Rebecca Headley's Dissertation Committee. It has been approved and accepted by all members of that committee, and it has been accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy in Criminal Justice & Criminology in the Andrew Young School of Policy Studies of Georgia State University.

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DEDICATION

This dissertation is dedicated to my Papa, Neil "Slick" Miller.

"*In the garden of memory,*
In the palace of dreams…
That is where you and I shall meet."

-James B. (Producer), & Burton, T. (Director) (2016). *Alice through the looking glass* [Motion picture]. United States: Walt Disney Pictures.

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CHAPTER I: INTRODUCTION

Within the United States, 4.8 million citizens are under parole supervision, with the parolee population comprising 68% of the 7.2 million people under correctional supervision (Porter, 2011). Each year, 600,000 to 700,000 inmates are released from terms of incarceration, of which, estimates suggest that between half and two-thirds will be revoked from parole, and subsequently, reincarcerated within three years following release (Durose, Cooper, & Snyder 2014; Porter, 2011; West, Sabol, Greenman, 2010). Although researchers have identified several individual-level variables associated with parolee reincarceration, few have investigated the role of neighborhood context on parolee outcomes. The current dissertation aims to fill this void within the parole literature, and has the distinct objective of identifying whether or not neighborhood-level characteristics, and local institutions, have an effect on parolee outcomes. Although researchers have considered such effects for offending and victimization, it is the rare study that has applied this reasoning to parolee outcomes (Hipp, Petersilia, & Turner, 2010; Kubrin & Stewart, 2006).

Parolees comprise a unique population, in that they have recently been released from the hyper-structured and controlling atmosphere within prisons, and have newly regained personal agency and liberties upon their entrance back into the community. Due to the great differences between environments during terms of incarceration and lives within the community, it is hypothesized that neighborhood environment may be particularly salient to parolees. Additionally, newly released offenders are confronted with an abundance of obstacles that span several facets of life. It is postulated that local institutions (i.e., churches, service providers) may aid in successful terms of parolee supervision through their ability to provide resources, social support, and informal social control to local community members.

Although socially disorganized neighborhoods have been linked to crime and delinquency, the role of neighborhood effects on parolee outcomes has seldom been examined. Moreover, there is neglect in the literature of the examination of local institutions, which may have the ability to weaken the effects of neighborhood disorganization on continued offending. The current study has a key interest in testing the effects of neighborhood context and local institutions on parolee outcomes.

Social Disorganization Theory and Offending

Variation in crime rates across ecological areas has long been a phenomenon of interest for social scientists. The interest in examining disparities in deviant behaviors across relatively small spatial units (i.e. Census tracts) gathered momentum with Shaw and McKay's (1942) book, *Juvenile Delinquency in Urban Areas*, which resulted in their development of social disorganization theory. This model, which followed the work of Park and colleagues (1925), explored how delinquency outcomes of adolescent males were related to ecological and social structural contexts in neighborhoods within Chicago, Illinois. Shaw and McKay concluded that neighborhood-level structural variables, including: poverty, decreased population size, percent immigrant residents, and percent Black residents, were related to variations in delinquency rates.

Shaw and McKay's (1942) work is beheld as one of the seminal pieces for understanding variations in delinquency rates, and has been used to explain variations in offending and victimization across counties, cities, and neighborhoods. Several early neighborhood-level studies supported the argument that neighborhood-level conditions are partially responsible for divergent crime rates (Bellair, 1997; Bursik, 1999; De Coster, Heimer, & Wittrock, 2006; Lowenkamp, Cullen, & Pratt, 2003; Park, Burgess, & McKenzie, 1925; Pratt & Cullen, 2005; Sampson & Groves, 1989; Shaw & McKay, 1942), yet interest in this theory subsequently

declined and was dormant for nearly two and one half decades. The reemergence of social disorganization models in the late 1980s, can, in part be attributed to Ruth Rosner Kornhauser's (1978) publication, *Social Sources of Delinquency*. In this important book, Kornhauser details the theoretical merits of the major criminological theories and ultimately argues for the supremacy of control theories. In line with this argument, she redefines the social disorganization model as a pure control theory.

Within Kornhauser's (1978) central arguments, she rearticulates the key variables in the social disorganization model, making them clear and measurable constructs, rather than abstract concepts. Equally important, she calls for the inclusion of neighborhood institutions, which were neglected in previous modelings of social disorganization theory. Kornhauser suggests that institutions, although not accounted for by Shaw and McKay's (1942) social disorganization theory, are essential pieces in the explanation of neighborhood order. Specifically, she argues that institutions are able to offer an alternative mechanism of neighborhood control and a means of socializing residents to conventional values and roles. Additionally, she points to the lack of institutions within poor neighborhoods, as these neighborhoods often do not have the financial means nor skill set to develop and maintain such institutions, leading to institutional instability and isolation. Furthermore, the scarcity of institutions within these neighborhoods leads to the suppression of their ability to act as effective controls, as well as the inability for residents to develop additional connections with other institutions throughout the community (Kornhauser, 1978, pp. 78-79).

Based on Kornhauser's (1978) arguments, criminologists began to reconsider, reoperationalize, and examine a variety of community-level contextual and structural variables. The recrafting of social disorganization theory, and the call for research to consider local

institutions, has led to a dramatic increase in neighborhood-level studies in the late twentieth century through the present time. Nonetheless, Kornhauser's paramount argument for the inclusion of institutions has generally been neglected, with institutions receiving limited attention, and only in early studies of social disorganization models (Sampson & Groves, 1989; Simcha-Fagan & Schwartz, 1986). Institutions allow for the socialization of residents to conventional value systems, while countering the sociocultural messages the residents receive in socially disorganized neighborhoods (Kornhauser, 1978), and often provide stability in otherwise transient communities (Messner & Rosenfeld, 1995). By failing to include institutions as an instrument capable of socializing residents and exerting informal social control, models examining neighborhood-level processes may not be fully developed.

Social Disorganization Theory and Parole

Social disorganization theorists argue that locations of offending and victimization rates vary alongside neighborhood-level characteristics (Bellair, 1997; Browning, 2002; Bursik, 1999; De Coster, et al., 2006; Lowenkamp et al., 2003; Pratt & Cullen, 2005; Sampson & Groves, 1989). Although scholars have identified that ex-offenders return to neighborhoods that are often plagued by the characteristics that Shaw and McKay (1942), as well as and more contemporary scholars (e.g. Sampson, Raudenbush, & Earls, 1997) have deemed to be socioeconomically disadvantaged (Kubrin & Stewart, 2006), the social disorganization framework has seldom been applied to this unique group of offenders.

Due to their removal and isolation from their communities, offenders who are returning to the community after a period of incarceration may be more receptive to community context compared to the general offender population. Although community members may be able to forge meaningful social ties and networks despite living in disorganized communities, any

original ties that may have existed pre-incarceration for released offenders may have been disrupted, if not completely severed as a result of being removed from the community.

According to Goffman (1961), those residing within "total institutions" are subjected to carrying out all activities of their lives within the same location, under the same authority, and furthermore, all activities are a facet to maintain an overall plan of operations (p. 314). During the course of incarceration, inmates have every minute of each day accounted for and monitored, with their movements throughout the facility calculated, limited, and on a schedule. Furthermore, inmates go through "the *stripping process* through which *mortification of the self* occurs," leading to the acculturation of individuals into a culture of inmates (Goffman, 1961, p. 317, emphasis in original). Through the experience of being stripped of personal liberties and freedoms, inmates may adapt their personalities and value systems to reflect prison subcultures of violence (Sykes, 1958). The adaption to prison life, as well as the effects of living in an environment of omnipresent restrictions and controls during terms of incarceration may lead to difficulties in successfully transitioning into the community, as adjustments must take place in nearly all aspects of their lives.

The uniformity and paramilitary lifestyles forced on offenders while incarcerated is lifted upon re-entering the community, and parolees are allotted dramatically more freedom in movement and choices in daily activities. Due to the great difference in lifestyle before and after release, parolees are in a unique state of mind, making them especially vulnerable to experiencing a variety of strains. Some agencies have employed programs such as transitional housing [e.g., halfway houses, community corrections centers (CCC), community corrections facilities (CCF)], with the aim of reducing the shock of transitioning from a total institution to the community; however, many released offenders are discharged into the community without an

intermediate or structured living arrangement. For example, in Pennsylvania (the site for this study), fewer than half of parolees (45%) are released to a community corrections center or a community corrections facility. The availability to resources and services may be important to parolees as they return to the community, and may be especially instrumental to those released directly to the community.

Although individual-level predictors of parolee outcomes have received some empirical attention, the examination of services and organizations in close proximity to parolee residences remains limited. Additionally, although local services and organizations have been applied to general patterns of offending (Beyerlein & Hipp, 2005; Lee & Ousey, 2005; Peterson, Krivo, & Harris, 2000; Slocum, Rengifo, Choi, & Herrmann, 2013; Triplett, Sun, & Gainey, 2005), neighborhood control (De Coster et al., 2006; Triplett et al., 2005), and collective action (Slocum et al., 2013), these institutions have not been extended to parolee outcomes. It is critical to examine the availability of and accessibility to institutions and organizations that may provide social capital for returning ex-offenders is a critical, yet this area remains underexamined. Specifically, this study explores the effects of neighborhood characteristics and the availability of local institutions on the likelihood of a parolee successfully completing his or her term of parole supervision.

Research Questions

As chronicled above, we have some understanding of what leads some parolees to succeed, yet others to fail their terms of community corrections; however, the breadth of our understanding is centered on individual-level parolee attributes. In general, neighborhood contextual effects have been neglected in the literature as a predictor of parolee outcomes. The

current study has a primary focus of examining neighborhood-level environments and institutions that may be conducive to successful parolee outcomes.

The current study defines neighborhoods as Census block groups, as such units are argued to be the most appropriate proxy when studying neighborhood parameters (Grannis, 1998). Researchers have been cautioned regarding the use of larger units of analysis (e.g., counties, Census tracts), as such units have the potential to lead to aggregation biases (Lee & Ousey, 2005). The use of smaller spatial units (i.e., Census block groups) when examining neighborhood-level variables, may result in obtaining a more accurate understanding of neighborhood effects on parolee outcomes.

The current study has five main areas of inquiry. First, analyses will test the effects of neighborhood disadvantage and mobility on parolee outcomes. Second, this study aims to identify if neighborhood context has varying effects for convicted parole violators (i.e., those reincarcerated as the result of a conviction for a new offense; "CPV") versus technical parole violators (i.e., those reincarcerated as the result of a technical parole violation; "TPV"). Third, the effects of neighborhood institutions (i.e., churches, service providers) on parolee outcomes will be assessed. Additionally, this study will consider the potential for the effects of institutions on parolee reincarceration to be moderated by the level of neighborhood disadvantage. Fourth, analyses will consider variations in the effects of all variables across time. And lastly, this study will examine if certain types of parolees (i.e., those with alcohol or drug abuse histories) are more likely to be affected by neighborhood context, and if so are neighborhood institutions capable of decreasing their odds of reincarceration.

The literature identifies several individual-level predictors of parolee recidivism (e.g., parolee demographics, offense type, parolee risk, release type). In order to examine the effects of

neighborhood context on parolee outcomes, while simultaneously controlling for individual-level parolee characteristics, this study will employ a multi-level analysis design (HLM).

Dissertation Roadmap

The purpose of this dissertation is to examine the effects of neighborhood contextual characteristics, churches, and service providers on parolee outcomes. Currently, the literature lacks a complete assessment of neighborhood-level predictors of parolee outcomes. Furthermore, the use of a social disorganization theoretical foundation, as well as the inclusion of local institutions within these frameworks, has been neglected within this line of inquiry.

As parolees may be fundamentally different from the general offender population, we must consider the effects of the contextual variables they are subjected when they return to their residential environments. Chapter II examines the historical progression of social disorganization theories, and Chapter III reviews the extant literature testing the intersection of neighborhood contexts, institutional availability, and parolee outcomes. Additionally, Chapter III considers parolee attributes identified as predictors of parolee recidivism. Chapter IV details the methodological and analytical techniques that will be used for the current study. Findings from these analyses will be presented in Chapter V. Chapter IV includes a summary and discussion of key findings, as well as potential parole policy recommendations.

CHAPTER II: SOCIAL DISORGANIZATION THEORY & NEIGHBORHOOD INSTITUTIONS

The History of Social Disorganization Theory

During the early 20th century, Chicago experienced a large influx in population over a short period of time. The cause of this rapid growth was the arrival of a great number of immigrants landing in large urban areas, leading to the observation that "over three-fourths of New Yorkers and Chicagoans were of foreign origin" (Holli & Jones, 1995, p. 529). During this period, crime rates within urban areas soared to new heights, while crime rates outside the city remained relatively stable. Upon the realization of disparities in offending rates and the recognition of patterns of offending across Chicago neighborhoods, Shaw and McKay (1942) sought to examine why such variations existed. The researchers used data points that spanned across a 30-year period, and included data on juveniles' contacts with various entities of the criminal justice system (i.e., police, courts, corrections). They presupposed that differences in delinquency rates were not due to variations in individual-level attributes, but rather, were the result of varying neighborhood-level phenomena.

Following Park, Burgess, and McKenzie's (1925) concentric zone model, Shaw and McKay (1942) found that crime did not disperse randomly, but instead, neighborhoods immediately outside of the city center (i.e., Zone 2) experienced the highest crime rates. They argued that divergent rates of neighborhood-level delinquency could be explained not only by ecological and structural variations, but also largely by cultural differences. When examining such variations, Shaw and McKay found that some spatial areas consistently experienced heightened rates of delinquency, despite the change of tenants occupying these areas (p. 87). The stability of delinquency in neighborhoods, regardless of individual occupants resulted in the

conclusion that neighborhood differences were a better predictor of crime rates than were differences between individual residents (see also Sampson & Wilson, 1995).

Upon completion of their analysis, Shaw and McKay (1942) concluded that variations in delinquency rates could be attributed to three neighborhood structural characteristics: (1) change in population size, (2) economic status, and (3) population composition (percent of the population that were Black, plus percent of the population that were first generation immigrants) (Shaw & McKay, 1942, p. 142). They contended that these neighborhood-level characteristics were capable of determining the level of "organization" within a community. Residents in neighborhoods located in the center of the city, who were of low socioeconomic status, and who were either recent immigrants or Black might be less likely to support or realize common value systems. Additionally, residents of areas marked by deteriorated and dilapidated buildings often relocated from these ghettos as soon as they were financially able, meaning they had little interest in investing in or improving their communities. Shaw and McKay argued such environments, as well as the tumultuous and persistent turnover of residents, led to further difficulty in establishing a common value system. The lack of unified value systems prevented in the emergence and sustainability of residential informal social control, resulting in increased delinquency rates in neighborhoods marked by the aforementioned characteristics.

Although rooted in a cultural framework, Shaw and McKay's (1942) social disorganization theory takes a mixed model approach, drawing from both cultural transmission and control theories. First, they argue that disorganized neighborhoods are more likely to foster deviant subcultures through the transmission of oppositional values and attitudes from adult offenders to the adolescents with whom they come in contact (Shaw & McKay, 1942, p. 174). The researchers postulate that cultural variation across areas, including introduction to,

witnessing of, and transference of oppositional value systems, is capable of explaining diverging rates of delinquency across communities. Under this argument, adolescents will align their value systems with value systems, whether conventional or deviant, that are held by the greater neighborhood. This divide of adherence to values and normative subcultural codes across neighborhoods results in disparities in neighborhood delinquency rates.

Although Shaw and McKay (1942) argue that social learning of values partially explains disparities in delinquency, they also argue that social control plays a role in determining delinquency within neighborhoods. Rather than being concerned with the ability of formal social control mechanisms (i.e., police agents) to exert control over residents, social disorganization theory is centered on the capacity of residents to enforce behaviors to preserve collective goals and values (Janowitz, 1975). In neighborhoods plagued by disadvantage (both in physical and economic standings) and that also have greater proportions of the population defined as immigrant or Black, residents may have a weakened ability to exert informal methods of social control. Here, Shaw and McKay argue that one reason immigrant communities are less able to control their children is due to the inability of effectively communicate with English. In cases where children are able to understand the language while their parents are not, children may have more control over situations as they are responsible for relaying information and conversations to their parents. Additionally, immigrant parents frequently had to work as children to help support their families, and as a result, often were not afforded leisure time as children. The lack of their own leisure time growing up may lead to difficulties in identifying appropriate activities for their children to engage in during these unstructured times, and consequently, may result in the failure to properly control and supervise adolescents. When considering families in impoverished neighborhoods, the need for goods may also infringe on disciplining deviant behaviors. For

example, if a child steals food or other needed products, the parents may realize that this is criminal behavior; however, their need for such goods may outweigh the need for enforcing law-abiding behaviors. In this light, acceptance of deviant behaviors leads to a disconnect with conventional value systems, and moreover, the lack of punishment by parents further depletes control over their adolescents.

The integration of control and cultural theories makes social disorganization a theoretically mixed model. Although some support has been found for this mixed model approach, others argue against the inclusion of the cultural deviance component (Kornhauser, 1978), or that the "the ecological dynamics pertaining to crime are only partially developed" (Heitgerd & Bursik, 1987, pp. 775-776, see also Baldwin, 1979). Furthermore, in agreement with Thrasher (1927), Kornhauser (1978) discusses that individual-level predictors, such as strain, can only result in delinquency when controls are weak (p. 51), and therefore, social disorganization is firmly rooted in control theory.

Today, many empirical tests employ variations of Shaw and McKay's (1942) social disorganization theory. Although in recent years the model has been reshaped and redefined, many of the original central tenants are included in research conducted at the community-level. This continuous exploration and redrafting of theoretical models is critical to furthering the understanding of disparities in crime rates across neighborhoods.

The Re-Emergence of Social Disorganization Theory

After decades of being virtually dormant, Ruth Rosner Kornhauser (1978) revived interest in Shaw and McKay's (1942) social disorganization theory by drafting a critical review of various strengths and weakness in the structuring and theoretical framework prescribed by the original model. In this critique, Kornhauser, perhaps most notably, repackaged the theory and

called for the reconsideration of the variables argued to be precursors to the emergence of socially disorganization amongst neighborhoods. Her reformulation of variables within the model resulted in relabeling the exogenous variables purported to identify community disorganization to allow for consistent measures across areas, and to now include racial/ethnic heterogeneity and high residential mobility (or instability) in addition to low socioeconomic status (Warner & Sampson, 2015).

In Kornhauser's (1978) rearticulation of Shaw and McKay's (1942) social disorganization model, she first considers their population composition measure. She argues that "all subgroups have *similar* values, but heterogeneity impedes communication and thus obstructs the quest for *common* values…obstruct[ing] the quest to solve common problems and reach common goals" (Kornhauser, 1978, p. 75, emphasis in original). Instead of solely considering the percentage of the population comprised of Black or immigrant residents, she argues that homogenous groups are capable of realizing common values and goals regardless of race or immigration status. Here, heterogeneity of a community infringes on the development of uniform values, rather than individual homogenous ethnic groups.

Second, although Shaw and McKay (1942) focused on declining populations as a proxy for the urban exodus and industrial invasion, Kornhauser (1978) argues that a more meaningful measure includes both increases and decreases in population size. Although fluctuations in population size may be an important consideration when examining the composition of neighborhoods, she argues this measure is not an accurate representation of what Shaw and McKay intended to measure, which she argues was residential mobility and population turnover (p. 64). Researchers have found support for her argument, with findings indicating that increases in population size, such as in "boom towns," are associated with more substantial changes in

delinquency outcome variables (see Freudenburg, 1986). Communities experiencing the relentless turnover of residents must constantly reestablish common values and continuously socialize new residents to acknowledged and agreed upon neighborhood value systems. Furthermore, transient residents lack a vested interest in their community (Kornhauser, 1978, pp. 75, 78), and report higher levels of overall dissatisfaction with their neighborhoods (Hipp, 2009). Residential detachment and discontent results in many residents fleeing from the neighborhood as soon as they are financially able, further depleting stability within the community.

Shaw and McKay's (1942) third variable, socioeconomic status (SES), remains in the model, as Kornhauser (1978) states that communities with members who fall into different levels of economic classes will also experience variation in the amount of importance they attach to conventional value systems within their daily lives (p. 76; see also Maslow's Hierarchy of Needs, 1943). Those who are impoverished may not hold as strong of allegiance to conventional value systems, as they may resort to non-conventional means to obtain needed goods. She does not argue that these individuals are rejecting conventional values nor accepting a deviant value system, but rather that their commitment to conventional values are weakened and less relevant. Furthermore, she states that the argument surrounding the correlation between SES and delinquency, through social disorganization, is "straightforward: poor communities and poor people have inadequate resources" (p. 63). These new measures defined by Kornhauser allow for a more theoretically consistent model for understanding how structural conditions lead to the ability or impediment of realizing common value systems.

Contemporary Models of Social Disorganization Theory

Kornhauser's (1978) critique of Shaw and McKay's (1942) social disorganization theory spurred new interest in the clarification and extension of this model, which led researchers to

borrow ideas from urban sociological approaches. One example is the application of Kasarda and Janowitz's (1974) definition of a community, in which they state that, a community is the "complex system of friendship and kinship networks and formal and informal associational ties rooted in family life and ongoing socialization processes" (p. 329). With such recrafting of definitions and model designs, two new sub theories of social disorganization emerged: the systemic model and the collective efficacy model.

The systemic model. In 1989, Sampson and Groves aimed to extend Shaw and McKay's (1942) model of social disorganization theory by including three mediating variables within their model: (1) local friendship networks, (2) the level of unsupervised teenagers, and (3) organizational participation (p. 783). These three variables were found to mediate over half of the effects of the traditional structural characteristics (i.e., SES, mobility, heterogeneity) on crime and delinquency. In general, studies testing the systemic model of social disorganization consider friendship and kinship ties to be the hallmark mediating variable between neighborhood structural characteristics, informal social control, and crime-related outcomes (Bellair, 2000; Bellair & Browning, 2010; Berg & Rengifo, 2009; Burchfield, 2009; Bursik & Grasmick, 1993; Bursik, 1999; Hirschfield & Bowers, 1997; Lowenkamp et al., 2003; Morenoff, Sampson, & Raudenbush, 2001; Sampson & Groves, 1989; Silver & Miller, 2004; Warner, 2003). Findings indicate the presence of other contextual processes need to be accounted for when considering deviant outcomes within neighborhoods. Of such areas of consideration, early systemic models incorporated and found support for measures of organizational participation (Sampson & Groves, 1989; Simcha-Fagan & Schwartz, 1986); however, further expansion of potential mediating variables have frequently been neglected in contemporary models.

The collective efficacy model. Following the emergence of the systemic model, Sampson, Raudenbush, and Earls (1997) coined the collective efficacy model, in which collective efficacy was operationalized as a combined measure of social cohesion and informal social control. The researchers argued, and found support for the notion that structural indices of disadvantage alone were not sufficient in explaining variations in crime rates. Specifically, they found that collective efficacy attenuated the effects of disadvantage, heterogeneity, and mobility on crime rates. Additionally, collective efficacy increased social ties, organizational participation, and services available to residents. Moreover, collective efficacy was found to be a better predictor of crime rates than were friendship and kinship ties. Consistent with these findings, several researchers have also concluded that social ties alone are not sufficient when considering the intervening constructs between community structure and crime rates (Browning, Feinburg, & Dietz, 2004; Morenoff, et al., 2001; Sampson & Raudenbush, 1999; Sampson, et al., 1997; Wickes, 2010). Furthermore, when considering the processes between physical and social disorder and violent crime, collective efficacy has been found to absorb the negative effect of social ties once included within the model (Morenoff, et al., 2001; Sampson & Raudenbush, 1999). Although disorder has been found to increase neighborhood crime rates, this relationship is spurious, in that both disorder and crime are the result of low neighborhood collective efficacy (Markowitz, Bellair, Liska, & Liu, 2001; Sampson & Raudenbush, 1999, p. 638). Although these findings show promise in the development of the social disorganization model, contemporary research has failed to fully examine the avenues that lead to the establishment and maintenance of collective efficacy.

Institutions, Crime, & Mechanisms of Control

> Social institutions are the building blocks of whole societies…They allow a society to endure over time despite the constant coming and going of individual members" (Messner & Rosenfeld, 1995, p. 74).

Several researchers have considered the ability of local institutions to mediate the harmful effects of neighborhood context on deviance (Kornhauser, 1978; Krivo & Peterson, 1996; Slocum et al., 2013; Triplett, Gainey, & Sun, 2003; Triplett et al., 2005; Wilson, 1987; 1996). Although Shaw and McKay (1942) briefly discussed the ability of local institutions and associations to further socialize and protect conventional value systems, they focus on these effects in middle- and upper-class neighborhoods (p. 165). More contemporary arguments for the inclusion of institutions within the social disorganization framework are centered on the ability of local institutions to socialize residents to conventional value systems[1] (Kornhauser, 1978; Wilson, 1987) across ecological contexts. Initially, this reasoning received a reasonable amount of interest (Sampson & Groves, 1989; Simcha-Fagan & Schwartz, 1986); however, contemporary models have often failed to account for local institutions. Although the empirical literature within this area is scant, the theoretical basis for including institutions in social disorganization models is well versed, with a call for further application within the offending literature (Lee & Ousey, 2005; Slocum et al., 2013; Triplett et al., 2003; Triplett et al., 2005).

The Theoretical Importance of Institutions

Scholars have argued for the incorporation of institutions within the social disorganization framework as institutions are posited to ignite collective action (Burchfield, 2009; Rose, 2000; Slocum et al., 2013), suppress the effects associated with neighborhood

[1] Institutions can be prosocial (e.g., recreation centers, churches, civic associations), antisocial (e.g., taverns, liquor stores, pawn shops), and neither (e.g. grocery stores). For the purposes of this paper, the term "institutions" will be considered to be those defined as prosocial, unless otherwise specified.

disadvantage and residential mobility (Peterson et al., 2000), and orient neighborhood members to conventional roles and value systems (Kornhauser, 1978; Wilson, 1987). Although the call for the incorporation of institutions within this framework initially received some attention (Hipp & Yates, 2009; Sampson & Graif, 2009; Sampson & Groves, 1989; Simcha-Fagan & Schwartz, 1986), recent models have often failed to include this important piece of the social disorganization puzzle. Furthermore, many of these studies were primarily concerned residents' participation within institutions and organizations (Hipp & Yates, 2009; Sampson & Graif, 2009), rather than considering the effects the organization may have on all residents within the neighborhood. This area of inspection may be advantageous for two key reasons. First, Kornhauser (1978) hones in on the importance of institutions as they relate to the socialization of residents, allowing them to develop and realize common goals and mainstream value systems. Second, institutions have the ability to generate and distribute social capital among residents, establish networks and ties, and develop mechanisms of informal social control.

Socialization to conventional values. Paramount to Kornhauser's (1978) argument for the inclusion of institutions within the social disorganization model is their capacity to socialize residents to conventional values. Institutions allow for the exposure of residents to different community roles, acceptable behaviors, and social supports, as well as the integration of conventional values. The integration of conventional values has been argued to be imperative to establishing and maintaining informal social control (Bursik, 1988; Kornhauser, 1978; Shaw & McKay, 1942) by counteracting "cultural disorganization" (Kornhauser, 1978). The process of "cultural disorganization" is the result of resident mutual distrust and institutional instability, and leads to the attenuation of collective goals and values among neighborhood residents.

Similarly, Wilson (1987; 1996) realizes the ability of non-economic institutions to influence the level of neighborhood social disorganization. He coins the term "social isolation," in reference to neighborhoods marked by a weakened institution base, and as a result, experience diminished social organization (Wilson, 1987, p. 136; see also Sampson & Wilson, 1995). In turn, social disorganization and social isolation further deplete contacts with conventional society. Infrequent exposure to normative value systems may lead to the attenuation of conventional value systems and a breakdown in common and collective goals (Wilson, 1996, p. 20), and furthermore, hamper the development of resolutions to community problems. In the absence of common value and goal systems, mechanisms of informal social control are unable to be generated or cultivated. Conversely, Wilson (1996) argues that residents of socially organized neighborhoods often have regular, strong, and interdependent ties, and frequently participate in non-economic institution activities (p. 20). In these neighborhoods, residents have greater exposure to conventional society, resulting in the capacity to recognize and develop means of reaching communal goals and establishing areas of "common ground," which in turn are able to evoke mechanisms of informal social control to protect these value and goal systems (see also, Slocum et al., 2013).

When considering the potential for institutions to socialize residents to conventional value systems, institutions act as a springboard, allowing several other processes to emerge. First, upon the establishment of a neighborhood-wide goals and value systems, residents may be more likely to come together to create meaningful networks and social ties. Second, the coupling of unified value and goal systems with the presence of local networks, allows mechanisms of informal social control to arise to protect neighborhood goal and value systems. Lastly, when

agreed upon goals and values are threatened, residents are able to collaborate to develop strategies to neighborhood problems.

Local networks and social ties. Social ties have been argued to enhance the ability of neighborhoods to create and maintain mechanisms of social control (Bursik, 1999), as well as moderate the effect of neighborhood structural characteristics on crime rates (Triplett et al., 2005; Warner, 2003; Warner & Rountree, 1997). Even in cases when contacts between residents are infrequent, ties still enhance informal social control (Bellair, 1997), as less frequent contact may be able to extend to a greater number of community members (Granovetter, 1973). Although contacts that are more frequent may bolster networks and relationships between community members, such findings highlight the importance of the quality, as well as the quantity, of local ties in explaining differing levels of social control.

Organizations have the ability to act as a catalyst in creating meaningful points of contact between community members who may have not otherwise interacted with one another. Furthermore, organizations encourage "overlapping relationships" (Meares & Corkran, 2007, p. 13; Triplett et al., 2003), in which public, parochial, and private agents of social control intersect. Because social ties allow for the realization and unification of conventional value systems, "when social ties are weak, one avenue for realizing shared values and strengthening culture is narrowed, which in turn erodes the basis of community control" (Warner, 2003, p. 79; see also Silver & Miller, 2004). The establishment of prosocial institutions can facilitate networking and ties between local residents, as well as those in the extended community.

Unfortunately, many neighborhoods with social ills and high crime rates also experience residential instability. Institutions have the ability to partially offset the disruption caused by residential mobility, such as the breakdown of informal social controls. Messner and Rosenfeld

(1995) state, "social institutions are the building blocks of whole societies…They allow a society to endure over time despite the constant coming and going of individual members" (p. 74). Local institutions may offer stability in an otherwise tumultuous area, allowing for ties and informal social control to persist in instances they otherwise would not. Messner and Rosenfeld (2004) summarize Talcott Parson's argument regarding the ability of institutions to fill societal needs through the dissemination of resources and social capital. This ability is of vital importance because such resources and social capital are often imperative to socializing residents to normative value systems, as well as to achieving communal goals (Messner & Rosenfeld, 2004; Parsons, 1961).

Social ties and networks within neighborhoods allow for the socialization of residents to conventional value systems, as well as forge relationships that aid in the dissemination of resources and social capital amongst members and non-members across the community. Moreover, upon the formation of networks and social ties, residents may become more aware of the value and goal systems they share with others living in their neighborhood. The unification around these systems may result in residents bonding together to engage in behaviors to protect their community and work in unison to achieve collective goals and values.

Mechanisms of control. Residents come together once they have realized they share common conventional values, with the aim of achieving and maintaining such value systems and goals. By acting collectively, this allows them to exert informal control within their communities in ways they could not as individuals. When residents collectively employ informal social controls, rather than relying on formal social controls (e.g. notifying the police), community members are empowered to unite in efforts to solve common neighborhood problems (DeLeon-Granados, 1999).

Local institutions allow neighborhood members to have contact with one another more frequently, which may illuminate similarities in goals and value systems. The realization of common goals is critical, as the perceptions of neighbors' commitment to conventional value systems has a greater impact on social control than the respondent's own value system (Warner, 2003). Neighborhood organizations increase the likelihood that residents perceive more of their neighbors to hold conventional value systems, as well as develop a more vested interest in the wellbeing of their community. The recognition of shared values and goals leads community members to perceive that others within their community are willing to engage in behaviors to protect those goals. The belief that residents will come together to intervene consequently activates neighborhood informal social control mechanisms (Warner, Beck, & Ohmer, 2010).

Alternatively, communities that are perceived to be disinvested, or as unlikely to intervene in instances of inappropriate behaviors, may open themselves up to potential victimization (Wilson & Kelling, 1982). Consistent with Wilson and Kelling's (1982) broken windows approach, neighborhoods beset with more nonconventional establishments (e.g., taverns, bail bonds offices, liquor stores), and that are poorly maintained may convey the message to both insiders and outsiders that residents are not committed to maintaining or protecting their community. If a crime does occur, residents are disengaged from the community and are unlikely to intervene, making these neighborhoods appealing targets for criminals.

Although the research considering the ability of nonconventional institutions to impede mechanisms of informal social control has remained in the limelight, the ability of conventional institutions to enhance social control has received minimal attention. Theoretically, it would be expected that conventional institutions would facilitate informal social control. Further

examining the potential of local organizations to impact mechanisms of informal social control may lead to fruitful extensions to the social disorganization framework.

Institutions must be considered in the social disorganization framework because of their ability to aid in the assimilation of residents to conventional value systems (Kornhauser, 1978; Sampson & Groves, 1989; Simcha-Fagan & Schwartz, 1986; Wilson, 1987; 1996), and unify residents in a manner conducive to increasing informal social control and crime control efforts (Meares & Corkran, 2007; Slocum et al., 2013). Although these arguments are theoretically consistent, the empirical findings regarding the effects of institutions within this model show to be inconsistent.

Empirical Findings

As discussed, the theoretical support for including institutions within social disorganization models is quite strong. When considering the potential of institutions to socialize community members to conventional value systems, as well as create and disperse social capital, one would expect diminished deviance in areas with a greater number of institutions. Contrary to expectations, findings regarding the effects of institutions on criminal justice related outcomes have been mixed. One explanation for divergent findings related to inconsistencies in definitions and measures of local institutions (e.g., index measures, counts of specific types of institutions, participation in institutions). Although inconsistent, an understanding of these measures and findings are imperative as they inform avenues of future research.

Counts of Institutions

Counts (i.e., the frequency) of institutions within a spatially defined area is perhaps the broadest measure used when considering the effects of institutions of community-level outcomes. Studies that employ a simple count of institutions often include a composite index of

the number of institutions that meet the researchers' criteria within a given area. In general, the literature has supported an inverse relationship between the number of local institutions and various crime outcomes (Lee & Ousey, 2005; Morenoff et al., 2001).

Morenoff et al. (2001) used neighborhood clusters to examine the effects of institutions and programs on homicide rates. The researchers used an index measure of the number of survey reported institutions and programs (e.g., community newspapers, block group associations, crime prevention programs, alcohol/drug treatment programs, mental health centers, family health services) within each cluster. Although local organizations and associations were found to predict collective efficacy, they did not elicit a direct effect on homicide rates. Using data from 310 large urban counties, Lee and Ousey (2005) created an index of social and civic institutions (e.g., civic associations, citizens' unions, community associations, youth associations) to test the effect of institutions on Black homicide rates. Not only was access to social and civic institutions negatively associated with county homicide rates, but that this relationship was amplified in neighborhoods where the index of dissimilarity (D) was greater, suggesting that institutions have the strongest effects in racially segregated/isolated neighborhoods.

When considering global measures of institutions (i.e. summed counts), Slocum and colleagues (2013) argue that using a composite measure of institutions is especially problematic because "theoretical perspectives differ in the terms of the mechanisms through which they posit organizations will effect crime and the types of organizations they emphasize as relevant for crime control" (p. 3). Creating an index measure of organizations results in a "watered down" model where effects can be difficult to detect (p. 11). In order to better assess effects, researchers have recently considered other types of institution measures.

Counts of Types of Institutions

After hypothesizing that different types of institutions have varying effects on neighborhood outcomes, researchers began to tease apart institutions by type. One type of prosocial institutions that has received a fair amount of research has been the effects of schools on crime rates. When considering the ability of educators and other school employees to monitor students' behaviors, while simultaneously increasing students' exposure to conventional values, one would expect to see decreased crime rates at and around schools; however, this is rarely the case. In nearly all studies examining this relationship, middle and high schools have been associated with increased crime rates in the surrounding area. For example, Broidy and colleagues (2009) employed analysis, using 430 block groups in Albuquerque, New Mexico. They found that high schools were positively associated with general measures of violent crimes and property crimes, as well as specific measures of aggravated assaults, burglary, and larceny. Additionally, both middle and high schools were positively associated with narcotics offenses; however, they did not consider differential effects of schools in different demographic areas.

Peterson et al. (2000) also examined different types of neighborhood organizations within 177 Census tracts in Columbus, Ohio. They found that recreation centers were able to attenuate the effect of disadvantage on violent crime rates; however other types of institutions (i.e., libraries, retail and employment institutions) failed to show an effect. Variation in the effects of different kinds of institutions on crime rates stress the importance of disaggregating institutions by type, rather than simply creating an index of local institutions.

Perhaps one of the most comprehensive studies considering several types of institutions was conducted by Slocum and colleagues (2013), where the association between the presence of family services, political groups, churches, religious charities, adult education services, advocacy

associations on both violent and property crimes were examined. The researchers employed analysis using 74 block groups within the South Bronx, New York. Overall, and contrary to expectations, they did not find a great amount of support for institutions. The researchers found null relationships for several types of institutions (i.e., places of worship, schools, adult education and vocational centers); however, programs providing family services (i.e., Head Start®) were associated with lower levels of property crimes.

Researchers have also considered that neighborhood associations and institutions may have varying effects on crime, contingent on neighborhood structural variables. In a test of this, Peterson et al. (2000) found that communities defined as moderately or affluently situated in terms of SES, recreation centers had no effect on crime rates, whereas in extremely disadvantaged neighborhoods, recreation centers had a strong and negative effect on crime rates. These findings highlight that disadvantaged neighborhoods may be unable to independently socialize community members to conventional value systems or enact mechanisms of informal control. Institutions aiding in neighborhood processes may be more important in disadvantaged areas, while more advantaged neighborhoods are able to maintain these processes independently. Surprisingly, Slocum et al. (2013) found conditional effects for religious charities as a moderating variable, where religious charities were associated with increases in violent crime in extremely disadvantaged areas (i.e. one standard deviation above the mean level of disadvantage). Consistent with arguments by McCord and colleagues (2007), increased crime rates in areas offering services may be the consequence of at risk individuals traveling to these neighborhoods to access services or goods.

Categories of Institutions

Putnam (1995) argues there are two classifications of institutions: bridging and bonding, and that these types of institutions need to be considered as two separate entities. The greatest distinction between bonding and bridging institutions relates to how they gather and disperse social capital, as well as the reach of who is included in networks and ties. Putnam defines bonding institutions as those that are organizationally-oriented, with a central focus on members. Within bonding institutions, resources and social capital are generated and distributed amongst organization members. Additionally, these organizations are characterized by having close-knit ties within groups or organizations (Putnam, 1995), and have an "inward looking" mantra. The internal focus of such organizations can impede crime control initiatives, as it may dampen neighborhood collective solidarity, and consequently, obstruct the ability to realize neighborhood wide goals and value systems (Beyerlein & Hipp, 2005; Putnam, 1995). In addition, the strong cohesion amongst group members can produce an "us versus them" mentality, resulting in outcasting and distancing from those who are not members (Skogan, 1988).

On the other hand, bridging institutions are those organizations that are community-oriented and extend their reach to the larger community in both the generation of and dispersion of social capital (Putnam, 1995). These institutions are considered to be "outward looking," as they aim to connect with the wider community. Bridging institutions are able to reach and assist members of the community in ways bonding institutions cannot. Due to bridging institutions obtaining and dispersing resources to community members, regardless of membership to the organization, and able to build meaningful networks spanning the larger community. Networks between institution members and neighborhood members allows for connections to be made to realize collective goals and value systems, as well as tactics to maintain these systems.

Moreover, social support defined as "the perceived or actual instrumental and/or expressive provisions supplied by the community, social networks, and confiding partners" (Lin, 1986, p. 18) may increase networking within and across institutions. Members may be willing to supply resources to help others and increase the wellbeing of the entire community (Chamlin & Cochran, 2007; Cullen, 1994). Through this lens, institutions have the ability to mediate the effects of neighborhood structural variables on crime rates; however, researchers suggest that these effects are different for bonding and bridging institutions. Findings indicate that neighborhoods with access to bridging organizations have lower violent crime rates (Beyerlein & Hipp, 2005; Slocum et al., 2013; Triplett et al., 2013), whereas bonding institutions do not elicit the same effect. Specifically, Slocum et al. (2013) found that a greater number neighborhood institutions that engaged in bridging to the larger community (e.g., political groups, advocacy associations) was associated with lower neighborhood crime rates, while other types of institutions failed to elicit an effect on crime rates.

The distinction between bridging and bonding institutions may be best illuminated by considering different types of religious institutions and houses of worship (hereafter, churches). In light of social disorganization theory, as well as the moral communities thesis, one would expect to see decreases in deviant outcomes in areas with a greater number of bridging churches. Bridging institutions are involved with the larger community, and have the potential to engage mechanisms leading to informal social control. Although bridging churches are expected to provide benefits to the larger community, one would not expect to see an effect on crime rates when examining bonding churches, as they are congregationally oriented, and do not have a primary mission of community engagement.

Churches

Although some research has considered the ability of local institutions to impact neighborhood-level outcomes, the examination of churches on crime outcomes has not received a great amount of attention. This lack of examination is surprising, as religious based institutions have a central aim of impressing morality within individuals by socializing them to conventional value systems. The moral communities thesis argues that churches are capable of creating ties between community members, increasing social control, and swaying individuals from deviant or criminal behaviors (Hoffman & Bahr, 2006; Lee & Bartowski, 2004; Regnerus & Uecker, 2006). The ability of churches to extend across several plains of community life has received attention from researchers and the government alike, yet these inquiries have rarely been connected to offending. In order to understand the potential effects of local churches, we must discuss the prevalence of churches, the resources they provide, the level of social control they exert, and their ability to tie members to local communities.

Policymakers and many within the general public have argued "that congregations and their members can offer multifaceted care that professional caregivers cannot equal" (Cnaan, 2002, p. 5). The observance of resources offered by churches led Congress to aid in financing churches' social service programs in the 1990s. Although the number of general social institutions within communities has declined, the presence of churches remains very stable in American neighborhoods (Hall, 1998). Today, religious organization remain well funded. In 2015, religious organizations received nearly 120 billion dollars in donations, accounting for over one-third of all philanthropic donations (Giving USA Foundation, 2016). Funding obtained through donations allows churches to provide an array of services, for example 90% of congregations report engaging in social welfare work (Cnaan, 2003) and 75% of congregations report providing aid for the poor (Cnaan, 2002, p.65). As low socioeconomic status is a correlate

of higher crime rates, an increase in services aimed at assisting those in poverty may lead to a decrease in crime rates.

Locations of churches are important, as congregants feel more or less tied to the community where their church is situated (Cnaan, 2002, p. 30). Many congregants (approximately two-thirds) do not live within the immediate neighborhood (defined as within a 10-block radius) of their church; however, they partake in community oriented activities in the neighborhoods surrounding the church (Cnaan, 2002, pp. 45, 55). Community engagement by congregants may be especially beneficial to parolees who might lack other forms of social support and who are living these areas. Although bonding churches tend to house programs almost exclusively within the church, bridging churches often connect members and neighborhood residents to several outside resources and networks, leading to an increase in the number of social ties. In an empirical examination of the ability of churches to increase reciprocated exchange (e.g., social ties and trust), Roman and Moore (2004) found the raw number of churches within a buffer zone adjacent to the block increased both social ties and trust among residents. Increases in networking and trust among residents has the ability to lead to the realization of shared value systems and goals, as well as the identification of community problems. The formulation of solutions to such problems allows for the emergence and bolstering of neighborhood informal social control.

Although the breadth of the literature examining religious institutions on crime rates has focused on membership and religiosity (for example, Cochran et al., 1994; Hirshi & Stark, 1969), the effects of churches have been argued to span to the larger community (Rose, 2000). Rose (2000) points to the ability of churches to act as agents of parochial social control, as they offer an array of programs and services, and are instrumental in the development and continued

engagement of local organizations (p. 314). In a comprehensive study of churches in Pennsylvania, Cnaan (2002) gave special attention to activities that take place within the church on days when services do not take place. He found that nearly 99% of churches reported being involved with community service that spanned an average of 39 different areas of service (p. 60-61). Furthermore, church facilities are often used for community service and outreach activities, with 27.4% of churches housing Alcoholics Anonymous (AA) meetings and another 19.1% hosting Narcotics Anonymous (NA) meetings. The services provided by or within churches may hold great importance when considering criminal justice related outcomes, as well as parolees' chances of successful reintegration, as they may provide necessary resources as well as increase personal accountability.

Moreover, approximately one-quarter of churches house community-police meetings, and 45.4% of churches serve as meeting places for other community-based organizations (Cnaan, 2002). By offering a location for meetings, neighborhood residents and those from the larger community may be able to develop social networks. Additionally, designated spaces for meetings allow for community members to assimilate to discuss goals, local problems, and develop remedies for neighborhood problems. Furthermore, churches have the ability to establish and maintain informal social control across the neighborhood. Warner and Headley (2014) examined this effect by gathering data on the number of churches within 66 block groups in two cities in a Southern state. The researchers found a positive association between the number of churches and informal social control within neighborhoods, while controlling for individual- and neighborhood-level context. This finding suggests that churches are capable of instigating control within various types of neighborhoods.

Counts of Churches

Similar to the institutions literature, the sparse research that has considered the effects of churches on community outcomes most commonly employs a global measure of churches. In these studies, researchers have created an index of the counts or rates of churches within a given area. Often times these studies use county-level data, which may lead to difficulties in detecting effects due to possible aggregation biases (for a further discussion see Chapter IV; see also Lee & Ousey, 2005). When considering studies that have used global measures of churches in analyses, the findings are generally inconsistent. For example, Slocum and colleagues (2013) include 74 block groups in their analyses, and found that the number of churches within a block group was not predictive of property or violent crime rates. Similarly, Willits and colleagues (2011) used 430 block groups within Albuquerque, New Mexico, and found that, contrary to their hypotheses, the number of churches did not predict any of the crime measures included in the analysis (i.e., violent crime, drug crime, three measures of property crimes).

Using county-level data, Lee and Ousey (2005) also failed to find a relationship between the overall number of churches and rates of Black homicides, but noted concern regarding their use of a large unit of analysis. Conversely, Beyerlein and Hipp (2005) found that the rate of congregations per 100,000 residents was associated with lower levels of homicide. One potential reason for variations in these findings is that these studies do not account for theological differences between churches. More specifically, many scholars have failed to consider differences between inward (i.e. bonding) and outward (i.e. bridging) orientations of churches included in analyses. Only recently have researchers began to incorporate Putnam's (1995) designation of bridging and bonding churches within their analyses.

Bridging and Bonding Churches

When considering the disaggregation of churches into the categories, scholars have relied on using church denomination type to identify churches as bridging or bonding. The religious ecology and theology literature indicates differences in church missions, engagement in community outreach, and hierarchical structuring of churches (Kellstedt & Green, 1993). These variations have been used when determining which denominations of churches should be categorized as bridging and which should be categorized as bonding (Beyerlein & Hipp, 2005. Historically, Evangelical Protestant churches are more congregationally-oriented, which aligns with bonding institutions, whereas Mainline Protestant and Catholic churches are more focused on outreach and have a larger focus on networking with the larger community, which is consistent with bridging institutions (Putnam, 1995).

Desmond and colleagues (2010) aimed to identify whether denomination of churches had an effect on property and violent crime rates within Census block groups in Indianapolis, Indiana, while controlling for other neighborhood variables[2]. When considering the effects of bonding churches on crime rates, the researchers found that Evangelical Protestant (i.e., bonding) churches were positively associated with robbery, aggravated assault, and property crime rates (including vehicle theft, larceny, and commercial burglary). Yet, when Mainline Protestant (i.e., bridging) churches were considered, the only effect detected was on property crime rates.

Similarly, Triplett et al. (2013) considered denominational differences between types of churches on domestic violence crimes and street crimes, while controlling for socioeconomic disadvantage, population turnover, percent renter occupied units, percent vacant units, population size, and religious heterogeneity. The researchers found a positive relationship between the

[2] Neighborhood level controls included: "downtown" location of Census block, population density, racial heterogeneity, residential instability, socioeconomic disadvantage, and lagged crime rates.

number of Evangelical and non-Evangelical churches within block groups on street crimes; however, only Evangelical Protestant churches were associated with domestic violence crimes. Although the relationship between churches and crime is a surprising finding, the researchers offer separate explanations for these unanticipated outcomes. Regarding street crime, they suggest that churches are often located on non-residential land, and that these areas remain unsupervised and vacant for the majority of the week (Triplett et al., 2013; see also Desmond et al., 2010), leading to a decreased level of neighborhood guardianship. Additionally, churches offer an array of resources (e.g., food pantries, shelter) to individuals who are under an immense amount of strain. Individuals accessing church resources may be at heightened risk for committing street crimes, and may engage in street crime while traveling to or through the neighborhood (Triplett et al., 2013; also see McCord et al., 2007).

Triplett et al. (2013) also offer several explanations for the positive relationship between Evangelical churches and the number of domestic assaults. First, they suggest these findings may be associated with the theology of these religious institutions. Although Evangelical pastors do not solicit for the abuse of women, these behaviors are often not condemned (see Nason-Clark, 2009). Second, in instances where abused women do reach out to the Evangelical church, pastors frequently attempt to offer counseling rather than refer women to outside providers that may be more capable of providing needed counseling and resources (Shannon-Lewy & Dull, 2005). Triplett et al. suggest that pastors may be ineffective in catering to the needs of abused women, which may precipitate the problem into a more serious state, resulting in the engagement of law enforcement, and subsequently, reflecting higher numbers domestic violence offenses.

Lastly, Beyerlein and Hipp (2005) found differences in the effects of bonding and bridging churches on assault, robbery, and burglary rates. The researchers found that bridging

churches were negatively associated with these crime rates, whereas bonding churches did not elicit significant effects on crime rates. Beyerlein and Hipp conclude that the divergence in findings between bridging and bonding churches can be explained by the ability for bridging churches to disperse social capital to the larger community, rather than only to members.

Conditional Effects of Churches

Other studies have considered the potential for institutions, and specifically churches, to be more effective in controlling crime in certain types of neighborhoods. For example, socially isolated neighborhoods, defined as those with limited resource bases, are generally located in disadvantaged areas (Wilson, 1987). Furthermore, disadvantaged neighborhoods are more likely to have weakened ties to conventional value systems (Kornhauser, 1978; Warner, 2003). Due to the inaccessibility to resources and high levels of socioeconomic disadvantage, institutions may be particularly important in disadvantaged areas.

In testing such conditional effects, Slocum and colleagues (2013) failed to find a significant interaction between their global church measure and disadvantage on violent and property crime. Conversely, Warner and Headley (2014) found support for an interaction term considering Mainline Protestant churches and neighborhood disadvantage. The researchers found that Mainline Protestant churches in extremely disadvantaged neighborhoods were associated with increased agreement with conventional values.

In another study employing a similar methodology, Headley and Warner (2016) used 66 block groups to examine the effects of a variety of church measures on neighborhood-level drug values. They found three significant and negative interaction effects of disadvantage and church measures on a neighborhood-level drug value measure. The measures of churches that were found to influence drug values included: the presence of at least one church, the number of

churches in a 500 foot buffer zone around the block group, and the number of bridging churches. Furthermore, they found bridging churches were associated with 25% fewer residents reporting that they "very often" witnessed drug trafficking within their neighborhoods. Again, this relationship was strongest in neighborhoods that were defined as extremely disadvantaged (i.e., block groups scoring 1 standard deviation or higher above the mean score of disadvantage). These findings suggest that neighborhoods with higher levels of disadvantage may benefit the most from institutions that are capable of generating and dispersing resources and social capital.

Conclusions

At the current time, one weakness of the social disorganization framework is the failure to consider institutions, notably churches, within contemporary models. The literature in this area is sparse, and those studies that do include institutional and church measures have generally been limited to considering crime rate outcomes. The examination of the effects of institutions and churches should be extended to the parolee population, as they constitute a unique population who are disproportionately likely to suffer extreme disadvantage at both the individual- and neighborhood-level. Consistent with previous findings, those suffering from extreme disadvantage may be those most receptive to the benefits offered by churches and other local institutions. The next chapter reviews the extant literature regarding predictors of parolee outcomes, as well as considering how institutions may attenuate these predictors of recidivism.

CHAPTER III: LITERATURE REVIEW OF PREDICTORS OF PAROLEE OUTCOMES

Introduction

In the United States, it is estimated that between 600,000 and 700,000 individuals are released from prison and reenter society each year (Durose et al., 2014; Lynch & Sabol, 2001; Sabol & Harrison, 2007; West et al., 2010), which equates to approximately 1,600 individuals transitioning from terms of incarceration back into communities each day (Travis & Lawrence, 2002). Of those released from prison, at year-end of 2013 there were more than 850,000 people under parole supervision (Rhine, Petersilia, & Reitz, 2016). Unfortunately, a substantial proportion of the parole population does not fare well upon reentry into the larger society. Parolees are reentering prisons at a rapid rate and in increasing numbers (Carson & Sabol, 2012), with estimates ranging from 40% to 64% of prison admissions being that of an individual being reincarcerated for a parole violation (Clear & Austin, 2009; Lin, 2010; Travis & Lawrence, 2002; Travis & Waul, 2002). To state this differently, and in perhaps the most startling way, "the number of parole violators admitted to state prisons in 2000 approximates the total number of state prison admissions in 1980" (Travis & Lawrence, 2002, p. 21, emphasis in original).

The majority (66% -80%) of those who are released will be rearrested within the three years following their release (Durose et al., 2014; Porter, 2011; West et al., 2010). This "churning" of offenders from incarceration to community, and then back through the criminal justice system (Blumstein & Beck, 2005), has been described as "punishment on the installment plan" (Steen & Opsal, 2007). The cyclical process between living within the community and serving terms of incarceration is troubling, and warrants further inspection of the predictors of recidivism.

Although there is a rich history of examining predictors of parolee outcomes, it has generally been limited to individual-level static and dynamic characteristics of parolees. Such characteristics include: sex, age, prior arrests, intelligence (now more generally, relabeled level of education), and familial/living arrangements. Although our understanding of such variables has grown immensely over recent years, many of the variables identified as predictors of recidivism have not evolved over time. Parolee attributes identified as predictors of recidivism in the infancy of parolee research, including studies by Allen (1947), Tibbitts (1932), and Bruce, Burgess, and Harno (1929), mirror many parolee characteristics incorporated in studies today. Furthermore, many contemporaneous studies continue to fail to include consideration for mediating or moderating variables, changes in criminal justice policies, or other modifications that may be capable of strengthening models' predictive powers.

The existing literature places great emphasis on the array of hardships and obstacles offenders face upon their releases back into society (Mallik-Kane & Visher, 2008; Mauer, 2005; Petersilia, 2003), with some scholars arguing for the importance of the availability of neighborhood resources to address these obstacles. For example, Kubrin and Stewart (2006) note the breadth of needs and restrictions experienced by parolees, including the need to obtain housing, employment, and in many cases, treatment, all while simultaneously adhering to the restrictive many conditions of parole. They point to the importance of the availability of resources within the community, and state that "not surprisingly, ex-offenders rely on neighborhood resources, services, and amenities to successful reintegrate. Without access to these assets they are at a risk to recidivate" (Kubrin & Stewart, 2006, p. 167). The concern surrounding the vast span of parolee needs has led researchers to consider the access to and availability of resources and social capital as protective factors against recidivism.

The importance of such needs have been acknowledged, in general; however, researchers fail to fully consider the role that local institutions may play in providing these resources. Although the study of neighborhoods in relation to crime has become prominent over the last 30 years, neighborhood characteristics are rarely examined in relation to parolee outcomes. This lack on inquiry in neighborhood characteristics is unfortunate, as parolees may be more sensitive to neighborhood context, as they are moving from an environment of absolute control to an environment that may be in complete absence of control. Indeed, environmental controls, particularly informal controls, would seem to be most central for those transitioning from a period of institutionalization back into general society.

The remainder of this chapter begins with a brief overview of Goffman's (1961) total institutions, which discusses the process that inmates go through while serving terms of incarceration. Additionally, this discussion highlights why parolees constitute a unique population that differs from the general offender population. Next, although limited, the literature regarding macro-level examinations of parolee outcomes will be considered. Following will be a review of the empirical findings of individual-level predictors of recidivism. Although the current study has a focal interest on neighborhood-level predictors of parolee outcomes, it is important to recognize individual-level variables to create a well-specified model. Lastly, the call for further research in this area will be discussed.

Total Institutions

Goffman (1961) discusses a variety of institutions that he defines to be "total institutions." These institutions serve an array of purposes, one of which is to protect those in the community threatening individuals, including those deemed to be criminals. Total institutions are places where an individual's freedom is constrained, forcing him or her to carry out all life

functions within a singular location, as opposed to those outside the institution who are able to move freely in their daily activities (Goffman, 1961, p. 314).

Similar to Sykes' (1958) depiction of prisons as the "society of captives," in which prisoners are removed from lives of freedom and thrust into an environment of nearly complete restraint, Goffman (1961) draws on the rigidity and control that consumes residents of total institutions. He describes the all-encompassing features of total institutions (including jails and prisons) as having totalistic features. The confines of the prisons' walls, and the regulations and restrictions placed on the prisoners within, diminish nearly all aspects of personal agency once held by its residents. The free individual is able to carry out each sphere of life (i.e., work, sleep, recreation) in separate locales and without constant authoritative supervision, whereas the prisoner carries out all spheres of life within the institution. In the total institution there is a "breakdown of the kinds of barriers ordinarily separating these three spheres of life" (Goffman, 1961, p. 314). Each aspect of the prisoner's life is welded into an interlocked relationship, carried out in one location and under the inescapable supervision of a sole authoritative entity.

Goffman (1961) takes care in further defining the rigid structure of the total institution, which suppresses nearly all decision-making practices of its inhabitants. Prisons and jails constitute possibly the most severe form of a total institution, where inmates are generally forbidden from leaving the premises and are removed from nearly all decision-making processes. Whereas the free individual is able to exercise personal agency when selecting their schedule, electing what to eat, and enjoying the freedom of movement, the prisoner has forfeited nearly all aspects of personal agency in these decision. Decisions regarding when to wake up and go to sleep, when and what to eat, where to walk, and when and who to speak to are often no longer up to the prisoner. Rather, these decisions are made by agents of the institution. Additionally,

inmates are subjected to tightly planned and enforced schedules, which are carried out under authoritative supervision and in the company of large groups of people (i.e. "batches"). The constant supervision and participation in daily activities within batches results in undermining the sense of the prisoner's autonomy and personal agency. Sykes (1958) coins the term "pains of imprisonment," in reference to the loss of freedoms and personal agencies. The deprivation of personal liberties that inmates experience may lead to frustrations, and furthermore, instances of misconduct and violent encounters as a means of adaption to life within prison (Innes, 1997). It is reasonable to ascertain that this new persona of toughness and violence may be difficult for newly released offenders to abandon once they are returned to the community, making adjustment to life on the outside even more challenging.

Goffman's (1961) arguments on the effects of total institutions are particularly salient to parolees for whom adjusting to life on the outside may be particularly difficult. While incarcerated, nearly all decisions are made for the inmate, all behaviors are controlled, and many daily activities are carried out in the company of others. Upon release, parolees are no longer part of this "batch," and they are required to carry out their daily activities alone and without the omnipresent supervision of an authoritative figure. Moreover, once released, parolees are faced with a myriad of daily decisions (e.g., schedules, who to converse with, where to go, how to occupy leisure time), which is vastly different from the hyperstructured environment of prison. This new flexibility in their schedules and the ability to make decisions for themselves may be overwhelming for newly released parolees. The presentation of choices and decision-making is greatly divergent from that of the individual's regimented life while on the inside, and the community context in which he finds himself is likely to take on heightened importance. Newly released offenders, who are now free of the severe control and pervasive monitoring they were

subjected to while incarcerated, may benefit from people who can aid in their transitions by offering both support, as well as means of informal control.

Formal Control and Parolees

Although the suffocating grasp of authority and constraints are loosened, most newly released inmates are not completely free from restrictions and supervision. Parole officers are responsible for not only monitoring parolees, but also for aiding in their transition back into the community; however, this is often a difficult undertaking, with findings suggesting the ratio of parolees to parole officers may be as great as 70:1 (Steiner, Travis, & Makarios, 2011). Although parole officers are tasked with identifying specific risks and needs of their clients, their large caseloads often make it difficult for them to provide treatment and resource plans that are tailored to each individual parolee. Additionally, large caseloads result in limited interactions between parole officers and their clients, with the average parolee having less than two face-to-face meetings each month with his or her parole officer (Petersilia, 2003). The large caseloads of parole officers result in parolees holding a great amount of responsibility for making an array of decisions regarding every day activities. For newly released parolees, this responsibility may be overwhelming as these decisions were made for them until their departure from prison.

Due to the limited resources and time of parole officers, services provided by community institutions may be especially important to parolee reentry. Messner and Rossenfeld (2001) discuss the ability of noneconomic institutions to socialize residents to normative and prosocial values and belief systems (p. 78), which may be applicable to parolees who may have weakened attachment to these systems upon prison adaption. Additionally, institutions can highlight collective goals among residents, apart from monetary goals that are over-emphasized in American culture. Findings suggest that noneconomic institutions are capable of moderating the

positive relationship between poverty and crime rates (Chamlin & Cochran, 1995). The socialization to common values and goals, which are reinforced by noneconomic institutions, may be especially imperative to the success of parolees. If these institutions are successful in orienting parolees towards conventional and collective goals while also providing avenues to much needed resources and treatment, they may be effective in swaying parolees from future offending.

The totalistic features of prisons make parolees a unique population to consider. The removal of strict schedules and newly regained personal agency, coupled with the need to adhere to conditions of parole, may be partially responsible for explaining why so many parolees return to prison shortly after release. Although parole supervision aims to encourage law abiding and conventional behaviors, the amount of supervision and support that is realistically able to be applied to each case is minimal. The tangible resources offered by noneconomic institutions, as well as aiding in the socialization to mainstream and collective goals while building conventional social ties, may be especially important for these individuals. Unfortunately, the relationship between local institutions and parolee outcomes remains underexplored; however, further inspection may provide a fruitful avenue of future research.

Empirical Literature: Macro-Level Predictors of Parole Outcomes

> Even the best efforts at rehabilitation of offenders will be undermined unless they are linked to a broader strategy to improve conditions in the communities to which offenders will return (Currie, 1998).

Although the majority of recidivism research has been primarily focused on individual-level predictors of parolee outcomes, some scholars have recently attempted to integrate macro-level factors (e.g., community context measures) into their studies. The examination of the ecological context into which parolees are being released has spurred interest within this line of

research and has been an integral component of recent inquiries of parolee outcomes (Clear, 2007; Harding, Morenoff & Herbert, 2013; Hipp et al., 2010; Kirk, 2009; Kubrin & Stewart, 2006; Stahler et al., 2013; Tillyer & Vose, 2011; Wehrman, 2010). Arguments suggesting that individual-level predictors of recidivism are moderated by contextual community-level variables have begun to surface within the literature, and have received moderate empirical support (Kubrin & Stewart, 2006; Hipp et al., 2010).

It has been established that crime, as well as the residences of offenders are not randomly dispersed across neighborhoods (Kubrin & Stewart, 2006; La Vigne, Kachnowski, Travis, Naser, & Visher, 2003; Lynch & Sabol 2004; Solomon, Thomson, & Keegan, 2004). Instead, neighborhoods fraught with economic disadvantage are found to experience higher rates of incarceration among residents, and additionally, have greater numbers of individuals returning to them after serving a term of incarceration (Cadora, Swartz, & Gordon, 2003; Harding, Morenoff, & Herbert, 2013; Lynch & Sabol, 2004). Such neighborhoods have been termed to be "Million Dollar Blocks," which are areas defined as one-square block in which the government spends over $1 million annually on incarcerating the residents of the block (Harding et al., 2013). The presence of Million Dollar Blocks point to the idea that a majority of incarcerated offenders come from a small number of small spatial areas (Sherman, 1995), of which many are economically disadvantaged (Kubrin & Stewart, 2006). These small areas with high offending rates may lead to greater likelihoods of parolee reincarceration. First, parolees returning to such neighborhoods may be at even a greater risk for reincarceration, as these areas may be over policed due to overall higher crime rates. Second, it may be difficult for parolees to remove themselves from deviant relationships and criminal networks in areas where a large proportion of the population are offenders (Chamberlain & Wallace, 2015).

With the shift of attention to macro-level contextual variables, researchers have begun to include additional measures related to social disorganization, such as informal social control and access to local resources and services, within their models. Preliminary research has indicated that parolees released into neighborhoods scoring high on measures related to social disorganization (e.g., socioeconomic disadvantage, residential mobility) are substantially more likely to experience parole revocation and reincarceration, as compared to those released into neighborhoods deemed to be more organized (Gottfredson & Taylor, 1986; 1988).

Although researchers have begun to include macro-level contextual characteristics into their models, the breadth of empirical findings are limited. Additionally, there are inconsistencies in the findings that do exist. By reviewing the extant literature within this realm, one can grasp the potential for parolee outcomes to be explained by variations in neighborhood characteristics that surpass individual-level differences. The following section will discuss the empirical literature regarding macro-level predictors of parolee outcomes.

Socioeconomic Disadvantage

As defined by the social disorganization literature, disorganized neighborhoods are often characterized as having high poverty rates, high levels of residential mobility, more frequent observations of indices of social (e.g., loitering, crime, unsupervised teenagers) and physical disorder (e.g., litter, graffiti), and high rates of family disruption (e.g. female headed households with minor children) (Krivo & Peterson, 1999; Sampson et al., 1997). Neighborhood socioeconomic disadvantage has long been considered a salient predictor of crime related outcomes, and it is often argued to operate through an array of moderating and mediating variables (Pratt & Cullen, 2005; Sampson, Morenoff, & Gannon-Rowley, 2002; Shaw & McKay, 1942). Traditionally, researchers have developed factors or indexes of socioeconomic

disadvantage that generally consist of Census data, and frequently include: percent unemployed, percent below the poverty line, percent receiving public assistance/TANF/food stamps, percent Black, percent without a high school degree, and percent female-headed households with minor children. As discussed in the previous chapter, these characteristics are argued to lead to the breakdown of informal social control, resulting in increased rates of deviance and crime.

The neighborhoods into which parolees return to are not random (Kubrin & Stewart, 2006); but rather, parolees self-select into neighborhoods (Bensel, Gibbs, & Lytle, 2015). This selection is often bounded by the availability of housing and may be further influenced by the parolee's race, education, criminal record, or other individual-level parolee attributes (Petersilia, 2003). The limited available of housing options for parolees results in a great number of released offenders returning to neighborhoods fraught with disadvantage, deprivation, and economic inequality (Alper, 2014; Cadora et al., 2003; Hipp, Jannetta, Shah, & Turner, 2009, 2011; Lynch & Sabol, 2004; Petersilia, 2003; Solomon et al., 2004; Visher & Travis, 2003). These neighborhoods are often composed of residents who are mal-equipped to successfully help others within their neighborhood (Agnew, 1999), as they frequently cannot take on additional burdens, strains, and stressors because they are already overwhelmed with their own life situations (Hipp & Yates, 2009). Additionally, disadvantaged neighborhoods generally do not have a strong resource and network base to provide services to residents (Fagan, West, & Holland, 2003; Guest, 2000; Kornhauser, 1978; Wilson, 1987).

The literature identifies that parolees residing in disadvantaged neighborhoods fare worse than those returning to neighborhoods that are more affluent in terms of socioeconomic status and resource bases (Bensel et al., 2015; Hipp et al., 2010; Kirk, 2009; Kubrin & Stewart, 2006). Using Census tract data from Portland, Oregon, Kubrin and Stewart (2006) conducted a study

examining the effects of neighborhood disadvantage on parolee outcomes. Recidivism was defined as the arrest of an individual within two years of his release from prison. Their measure of disadvantage included the percent of individuals within each tract who were recipients of public assistance, below the poverty line, and unemployed, along with the median household income. The researchers found that concentrated tract disadvantage was positively associated with parolee rearrest. Additionally, using the ICE index, Kubrin and Stewart modeled the effects of concentrated affluence on recidivism (for a discussion of the ICE index, see Massey, 2001) and found that concentrated affluence serves as a protective factor against recidivism, in which a one unit increase in the ICE index was associated with a 52% reduction in the odds of rearrest. In these models, neighborhood-level contextual variables were capable of explaining 13% of the variance in the model, after controlling for individual-level characteristics. This highlights that although individual-level variables may explain a great amount of the variation across parolee outcomes (51%), the ecological contexts to which they are released are also capable of explaining differences.

Hipp et al. (2010) examined the role of disadvantage on parolee recidivism in California, and defined recidivism as reincarceration due to a new offense or technical violation. Similar to Kubrin and Stewart (2006), they used tract-level data to construct their measure of disadvantage, which included: percent below poverty line, percent unemployed, percent single-parent households with minor children, median tract income, and median home value. The researchers found that the level of concentrated disadvantage was positively associated with parolee recidivism. Specifically, Hipp et al. found that a one standard deviation increase in concentrated disadvantaged was associated with a 10% increase in the likelihood of recidivism of the parolees residing in the tract, when compared to those living in tracts scoring at the mean of concentrated

disadvantage. Furthermore, not only did concentrated disadvantage increase the likelihood of recidivism of parolees within the focal tract, it was also associated with increased recidivism for parolees in adjacent tracts. Parolees living in disadvantaged tracts that were also surrounded by tracts with a similar level of disadvantage were 12.7% more likely to be reincarcerated, compared to those living in neighborhoods surrounded by less disadvantaged tracts. The researchers concluded that "parolees returning to neighborhoods embedded in larger disadvantaged areas are particularly at risk of recidivating" (Hipp, et al., 2010, p. 965).

Although the relationship between neighborhood economic disadvantage and recidivism has generally received support, null relationships have also been found. For example, Stahler et al. (2013) examined the effect of tract-level disadvantage on parolee reincarceration for either a new crime or a technical violation within the three years following release. They found no relationship between economic disadvantage and reincarceration; however, it is important to note that their disadvantage measure only included percent of residents receiving public assistance and percent of the population 25 years of age or older without a high school diploma.

Mears and colleagues (2008) used Hierarchal Linear Growth Modeling (HLGM) to examine the effects of "resource deprivation" (i.e., neighborhood economic disadvantage) on parolee outcomes using county-level data from the state of Florida. To create their measure of resource deprivation, the researchers conducted a factor analysis, in which percent unemployed, percent below the poverty line, percent receiving public assistance, percent female-headed household with minor children, and median household income all loaded together onto one factor. Mears et al. defined recidivism as occurring if the parolee was reincarcerated for a new felony conviction within the two years following release. The type of crime for which the individual was reincarcerated for was also considered, and was categorized as a violent, property,

or drug offense. Although the researchers found that resource deprivation was positively associated with violent crime recidivism, surprisingly, resource deprivation was found to decrease the likelihood of reincarceration for drug offenses among parolees (Mears et al., 2008).

Bensel and colleagues (2015) used data from 137 Census block groups to examine the effects of neighborhood disadvantage on parolee success. Their measure of disadvantage consisted of percent of residents receiving public assistance, percent below the poverty line, percent unemployed, percent single-parent households with minor children, and median household income. Parolee success was considered to take place if the parolee was not revoked for a new crime or technical violation, while parolee failure was defined as parolee revocation resulting from either a technical violation or the commission of a new crime. They found that parolees living in disadvantaged neighborhoods were significantly more likely to be revoked from parole, compared to parolees living in more affluent neighborhoods.

One reason for the mixed results in regards to the effects of socioeconomic disadvantage and parolee outcomes may be due to the application of various definitions of recidivism, as well as researchers employing different units of analysis to measure neighborhood effects. Although mixed, in general, findings have supported the application of social disorganization theory to parolee outcomes. Overall, findings suggest that regardless of outcome measures—rearrest, new violations, or technical violations—standard measures of concentrated disadvantage, which include multiple indicators of poverty, are predictive of increased likelihood of parolee failure.

Residential Mobility

As identified by the social disorganization literature, residential mobility is often associated with undesirable outcomes. Through this framework, it is purported that high turnover of residents impedes the capacity for collective goals and values to be recognized, and

consequently hinders the ability for social control to arise (Shaw & McKay, 1942). Although this has been extended to offending and deviance outcomes, it has rarely been applied to parolee recidivism research.

Using Census tract data, Hipp and colleagues (2010) examined the effect of residential stability (measured as average length of residence, percent of households that moved into their units in the last five years, and percent of units that were currently vacant) on reincarceration of released offenders for either technical violations or the commission of a new offense. Surprisingly, the researchers found that residential mobility was inversely associated with reincarceration; however, this relationship was no longer significant once other variables were introduced to the model (i.e., proximity of service providers, need for services). Hipp et al. suggest that this relationship may be the result of fewer service providers being located in stable neighborhoods. Similarly, Stahler and colleagues (2013) used Census tract-level data to assess the effects of residential mobility on parolee reincarceration resulting from either technical violations or new crimes within the three years following release from prison. Their mobility measure included two items, the percent of housing units that were vacant and the percent of housing units that were renter occupied. Stahler et al. failed to find a significant relationship between residential mobility on parolee reincarceration. Additionally, both of the aforementioned studies were conducted using Census tract data, which are large areas that may lead to aggregation biases and misleading results (Lee & Ousey, 2005). There has been a call for the use of smaller units of analysis (e.g. block groups), which the current study aims to address.

Although the existing findings suggest that residential mobility does not have an effect on parolee outcomes, these findings are similar to those found in the general offending literature. When considering the effect of mobility on an array of outcomes, it has been found social ties

mediate the effect of mobility (Triplett et al., 2005; Warner & Rountree, 1997), whereas stability is found to be predictive of social ties (Sampson, 1988). Moreover, residential stability has been found to lead to increased perceptions that neighbors share conventional value systems (Warner, 2003), and will intervene to uphold these systems (Hackler, Ho, & Urquhart-Ross, 1974). Although the direct effects of mobility on crime and neighborhood outcomes are to some extent mixed, this relationship warrants further examination. Mobility is key in the processes associated with the interplay between control, networks, and socialization to conventional values. Therefore, extending this line of inquiry to parolee outcomes may provide advantageous findings.

Parolee Concentration

As previously discussed, parolees gravitate towards certain neighborhoods (Kubrin & Stewart, 2006; Petersilia, 2003). Lynch and Sabol (2001) found that 20% of the prison population returned to only three percent of the Census tracts for which the prison was spatially responsible. Similarly, Visher and Farrell (2005) found that over half (54%) of parolees returned to only seven of Chicago's 77 community areas. Due to the great concentration of parolees within only a few number of neighborhoods, scholars have begun to question if higher densities of parolees may increase the likelihood of recidivism. One such hypothesis posits that in neighborhoods with higher incarceration rates, the deterrent effect of incarceration is weakened and stigma associated with incarceration decreased because incarceration is perceived as a normal life event (Petersilia, 2003; Rose & Clear, 1998). An alternative argument posits that when a great number of parolees return to the same neighborhood, it may be difficult to sever ties with others currently involved in criminal offending, and challenging to disconnect from criminal lifestyles (Kirk, 2009; Chamberlain & Wallace, 2015).

When empirically examined, findings suggest that neighborhoods with a higher concentration of parolees are prone to increased crime rates (Clear, Rose, Waring, & Scully, 2003; Hipp & Yates, 2009). More recently, scholars have honed in on this line of inquiry, and have sought to examine if this relationship transfers to parolee recidivism. Stahler and colleagues (2013) created a one-mile buffer around parolees' addresses and calculated recidivism rates for each area. They found that parolees living at addresses with a high density of parolees within a one-mile radius were more likely to be reincarcerated, and were done so more rapidly than those living in lower parolee density areas. Similarly, Chamberlain and Wallace (2015) found that the percentage of parolees within a block group increased the likelihood of parolee reincarceration, and furthermore, decreased the time between release and reincarceration. They categorized block group densities of parolees into three levels: high (one standard deviation above the mean), medium (at the mean level), and low (one standard deviation below the mean). The researchers found that the risk for reincarceration over time was the greatest for parolees living in neighborhoods with high concentrations of parolees. Chamberlain and Wallace argued that this might be the result of parolees creating ties or associations with other criminals in their neighborhood or through increased competition for scarce resources.

These findings suggest that residing in neighborhoods with a high concentration of parolees may be yet another risk factor working against successful reintegration of parolees. Future research should consider the interplay between concentration of parolees and other macro-level variables (e.g., disadvantage, service providers), as well as individual-level predictors of recidivism.

Local Services and Resources

Researchers have recently begun to consider the potential for neighborhood social services, institutions, and other local organizations to aid in the transition of inmates returning to communities. Kubrin and Stewart (2006) argue that given the number and types of obstacles ex-offenders face when reentering society, social services are vital to the reintegration process (see also Hipp et al., 2010; Petersilia, 2003; Zhang, Roberts, & Callanan, 2006). Many social services have a specific aim of addressing violence and addiction problems, which may be especially relevant to the needs of newly released parolees. Unfortunately, just as crime is not randomly dispersed, access to and the proximity of services vary across neighborhoods (Hipp et al., 2010; Studt, 1973).

Although the literature has identified many obstacles that parolees face upon release, as well as their dire need for services (Kubrin & Stewart, 2006; Petersilia, 2003), the literature has generally failed to integrate service related variables into models examining parolee outcomes. One study that considered this line of inquiry was conducted by Hipp and colleagues (2010), in which they examined the effect of proximity of parolee service providers on parolee reincarceration. In a novel approach, the researchers collected data on service providers from the Division of Adult Parole Operations of the California Department of Corrections and Rehabilitation database. The types of services and resources contained in this database "range from housing to anger management to drug and alcohol services—basically all services that parolees might need during their supervision" (Hipp et al., 2010, p. 957). Parolee and service provider addresses were aggregated to Census tracts for analyses. Hipp et al. found that the presence of nearby service providers was inversely associated with parolee reincarceration. Specifically, a one standard deviation increase in the number of service providers within a two-

mile buffer zone around parolees' residences resulted in 26.8% decrease in the likelihood of recidivism, whereas in areas with few service providers (one standard deviation below the mean score of service providers) parolees were 37.0% more likely to be reincarcerated (Hipp et al., 2010, p. 966).

As reviewed in the next section, parolees who are of a racial minority category are at heightened risks of reincarceration upon release from prison, and services may be more important for these groups of parolees. Indeed, using a cross-level interaction, Hipp and colleagues (2010) found that "an African American with seven service providers nearby has the same risk of recidivating as a White parolee with no service providers nearby" (pp. 968-969). Due to the limited research in this area, additional consideration of the ability of local services to decrease the odds of parolee recidivism is warranted. Furthermore, creating interaction terms between neighborhood disadvantage and service providers may show to be fruitful, as parolees residing in disadvantaged neighborhoods may have a greater need for these resources. Lastly, additional macro-micro interactions should be examined in order to further identify if certain at-risk groups of parolees are more receptive to the availability of service providers.

Other Noneconomic Institutions

As discussed in Chapter II, there are several theoretical arguments for the importance of neighborhood institutions when considering neighborhood residents' behaviors. Institutions are argued to provide a means of socializing residents to conventional value systems (Kornhauser, 1978; Wilson, 1987), increase collective efficacy among residents (Burchfield, 2009; Rose, 2000; Slocum et al., 2013), and have the ability to weaken the effects of neighborhood disadvantage and residential mobility on deviance (Kornhauser, 1978; Peterson et al., 2000).

The empirical examination of the effects of local noneconomic institutions on offending has shown promising results. The literature that has included counts and indexes of local social and civic institutions and associations into their models have found that these noneconomic institutions are associated with lower homicide rates (Lee & Ousey, 2005; Morenoff et al., 2001). Considering different types of local institutions, Peterson and colleagues (2000) found that recreation centers located in extremely disadvantaged neighborhoods were associated with decreases in crime rates. As previously discussed, a variety of church and religious organization measures have been developed and incorporated into models. Researchers have reported inconsistent findings across studies examining the relationship between churches and crime rates (see Chapter II for a thorough discussion of measures and findings). Many studies have found that churches have a null effect on a variety of crime outcome measure (Slocum et al., 2013; Willits et al., 2011). Others have argued null findings may be due to the failure to consider theological differences between church types (Beyerlein & Hipp, 2005; Triplett et al., 2013). For example, Beyerlein and Hipp (2005) examined the differences between bridging and bonding churches on violent crime, and found that only bridging churches were associated with lower assault, burglary, and robbery rates, whereas bonding churches failed to elicit an effect.

Although researchers have considered the effect of noneconomic institutions on offending, this line of inquiry has yet to be empirically extended to studies examining parolee outcomes. Due to the great number of obstacles that parolees face upon release from prison, coupled with the removal of strong controls, noneconomic institutions are hypothesized to have an effect on parolee likelihood of success. Such local institutions have the ability to re-socialize parolees to conventional values within the communities they are returned to, as well as provide

needed services. Further application of the effects of noneconomic institutions may provide valuable findings that may result in the ability to enhance parolees' reintegration processes.

Empirical Literature: Micro-Level Predictors of Parole Outcomes

The majority of the literature examining parolee outcomes is firmly rooted in individual-level variables. The study of the effects of parolee attributes on recidivism has received a fair amount of attention, and it is important to consider in order to be able to distinguish between compositional and contextual effects on parolee outcomes.

Sex

Men are consistently overrepresented in every facet of the criminal justice system. Men are more likely to commit violent offenses (Felson, 1996), be arrested (Federal Bureau of Investigations, 2015), be detained prior to trial (Daly, 1989; Krutsschnitt, 1984; Kruttschnitt & Green, 1984; Spohn, 2009; Steury & Frank, 1990), be incarcerated (Carson, 2015; Daly, 1989; Spohn, 2009; Spohn & Beichner, 2000) receive harsher sentences (Blackwell, Holleran, & Finn, 2008; Daly, 1989; Demuth & Steffensmeier, 2004; Kruttschnitt, 1984; Kruttschnitt & Green, 1984; Kruttschnitt & McCarthy, 1985; Maxwell & Davis, 1999), and not be granted parole (Hannah-Moffat & Yule, 2011). The effect of sex on criminal justice related outcomes is no different when considering the success and failure of parolees. Women are substantially less likely (as much as 33%) to recidivate compared to men, while controlling for other individual- and neighborhood-level attributes (Hipp, et al., 2013; Kubrin & Stewart, 2006; Sabol et al., 2000; Steen & Opsal, 2007). Stahler et al. (2013) found males had 1.50 times the odds of being reincarcerated for a drug related offense; however, the effect of sex was not significant when considering other offense types. Mixed and conditional findings indicate that the effect of sex on parolee outcomes may be crime specific, and merits further examination.

Race and Ethnicity

Racial minorities are disproportionally likely to be arrested (Uniform Crime Reporting Program, 2014). Whereas one out of every 99.1 Americans will experience incarceration at some point in their lives, this rate is much higher for Black males. Estimates suggest that one-third of Black males will be incarcerated in prison within their lifetimes (Mauer, 2011). Even while holding legal factors constant, Black males have been found to have 1.60 times the odds of incarceration compared to White males (Ulmer, Painter-Davis, & Tinik, 2016).

The disproportionate representation of Black individuals experiencing incarceration has often been found to carry over to parolees (Chamberlain & Wallace, 2015; Kruttschnitt, Uggen, & Shelton, 2000; Kubrin & Stewart, 2006; Langan & Levin, 2002). Specifically, when compared to White parolees, Black parolees are 19% more likely to have their parole revoked for a new crime, and 50% more likely to be revoked as the result of a technical violation (Steen & Opsal 2007; see also Hipp et al., 2010). Such findings, especially those regarding technical violations, have ignited the argument that Black parolees are sanctioned more harshly than White parolees (Steen & Opsal, 2007, p. 360, 361, 362).

Black parolees are more likely to be rearrested for new crimes and violent crimes within three years following release, when compared to White parolees, Hispanics/Latinos parolees, or parolees identifying as a different race (Durose et al., 2014). Kubrin and Stewart (2006) further disaggregated race, and found that Black and Native American parolees were more likely to be rearrested than White parolees, whereas Asian American parolees were significantly less likely to be rearrested than White parolees. There were no significant differences between White and Hispanic parolees. Similarly, Listwan and colleagues (2013) found that recently released offenders who were White had odds of arrest that were 24% lower when compared to non-White

released offenders. Other researchers have considered whether this relationship varied by the offenses resulting in reincarceration. Orrick et al. (2011) found that non-White parolees were significantly more likely than White parolees to be reconvicted for property and drug offenses; however, there were no significant differences in reconvictions for violent offenses.

Age

Consistent with research on the relationship between age and offending (Laub & Sampson, 2001; Moffitt, 1993), younger parolees (generally defined as those under 30 years of age) have been found to be more likely to recidivate and experience revocation than older parolees (Chamberlain & Wallace, 2015; Durose et al., 2014; Hughes, Wilson, & Beck, 2001; Kubrin & Stewart, 2006; Listwan et al., 2013; Reisig, Bales, Hay, & Wang, 2007; Sabol et al., 2000; Steen & Opsal, 2007). Specifically, Hipp and colleagues (2010) found that younger parolees (those who were younger than 37 years old, which was the mean age of their sample) were 10% more likely to be reincarnated than older parolees. The increased likelihood of reincarceration continued to increase until age 39, at which time it began to level off. As parolees reached the 40 to 49 years age range, their likelihood of reincarceration began to decrease drastically with those age 60 and older being 40% less likely to have recidivated than those ages 30 to 39 (Hipp et al., 2010). Additionally, Listwan and colleagues (2013) found that for every one year increase in age, there was a 4% decrease in the odds of arrest among parolees and 3% decrease in the odds of reincarceration. Similarly, Kim (2010) used PA-DOC data to examine the effects of age on recidivism. She found that for every one year increase in age, there was a 2.1% decrease in the odds of parolee reincarceration.

Other researchers have considered the effect of age on recidivism, while delineating by type of offense. Stahler et al. (2013) considered the type of the offense for which the parolee was

serving his original sentence, and found that drug and violent offense parolees were more likely to experience successful parole outcomes as they became older than those paroled for property crimes. In a different approach, Orrick et al. (2011) examined age differences by type of reconviction offense, and found that the effect of age differed by type of crime. Specifically, younger parolees (those 30 years of age or younger) were more likely to be reconvicted of both property and violent crimes; however, youthfulness was not found to be associated with reconviction of drug crimes (Orrick et al., 2011). The generally consistent findings regarding the decrease in likelihood of offending among older parolees clarifies the need to include age as a control variable within models.

Criminal History

Drawing from Goffman's (1961) total institutions, previous terms or longer sentences of incarceration may make it more difficult for released offenders to re-acclimate to personal freedom and the absence of a rigid schedule. Nearly all studies that include a measure of prior criminal record have found that those with a greater number of arrests and more extensive criminal histories fare worse in the community upon release, compared to parolees with more sparse criminal records (Beck & Shipley, 1989; Durose et al., 2014; Gendreau, Little, & Goggin, 1996; Gottfredson & Taylor, 1986; Kruttschnit et al., 2000; Langan & Levin, 2002; Listwan et al., 2013; Loeber & Le Blanc, 1990; Mears et al., 2008; Nagin & Paternoster, 1991). For example, those with prior felony convictions were found to be 121% more likely to be revoked from parole for a new offense and 80% more likely to be revoked for a technical violation when compared to those without a felony history (Steen & Opsal, 2007), which is concerning as a majority of parolees are not first time offenders or prisoners. In a study using data from 15 states, Langan and Levin (2002) found that 43% of released offenders had served at least one prior

incarceration term, and the average offender had six prior arrests. Similarly, Durose and colleagues (2014) found that only about one-quarter of parolees had four or fewer arrests, while over 40% had 10 or more prior arrests. Additionally, approximately 50% of parolees had three or more prior convictions.

When considering prior incarceration, several studies have found that parolees who have served at least one prior prison term were more likely to have unsuccessful parole outcomes, when compared to those who had never been incarcerated in prison (Chamberlain & Wallace, 2015; Hughes et al., 2001; Kassebaum, 1999; Kassebaum, Davidson-Coronado, Perrone, & Allen, 2001; Mears et al., 2008). Specifically, Chamberlain and Wallace (2015) found that for each previous incarceration, there was a 24% increase in the odds of arrest while under parole supervision. Conversely, in a systematic review of the literature, Villettaz and colleagues (2006) found that there was no systematic evidence that incarceration had a positive or negative effect on offending of parolees.

When considering the effects of the type of offense for which the parolee was currently serving his or her sentence, findings are mixed. Stahler et al. (2013) found the odds of reincarceration for paroled drug offenders were 1.38 times greater than for violent/non-drug offenders. Additionally, parolees released after serving prison terms for a drug offenses were reincarcerated more quickly upon release (Spohn & Holleran, 2002; Stahler et al., 2013). Other research suggests property offenders experience the highest rates of recidivism with nearly three-fourths (74%) being reincarcerated within one year, followed by drug offenders of whom two-thirds were reincarcerated (67%) (Lanza-Kaduce, Parker, & Thomas, 1999; see also Kubrin & Stewart, 2006). Chamberlain and Wallace (2015) found that property offenders were 24% more likely to be reincarcerated when compared to violent offenders (see also, Hughes et al., 2001;

Steen & Opsal, 2007). In general, criminal history has been found to effect the odds of parolee outcomes, and therefore, warrants inclusion as a control variable within parolee outcome models.

Substance and Alcohol Abuse

The use of controlled substances (Kruttschnidt et al., 2000; Weiner & Sussman, 2005) and binge drinking (Richardson & Budd, 2003; Valois, McKeown, Garrison, & Vincent, 1995) have been consistently identified as predictors of offending (Dowden & Brown, 2002; Lennings, Copeland, & Howard, 2003; Richardson & Budd, 2003). Estimates suggest that approximately 80% of incarcerated individuals report a history of drug or alcohol abuse (Belenko & Peugh, 2005; Kruttschnidt et al., 2000; Mumola & Karberg, 2006). When compared to other parolees, those with a history of substance dependency are more likely to be reincarcerated upon release (Hueber & Berg, 2011; Kassebaum, 1999). For example, Hueber and Berg (2011) found parolees who were reconvicted within 180 days of release were twice as likely to have drug dependence histories, when compared to those who were successful.

Given that 60% of inmates report extensive alcohol use and 72% reported substance abuse problems, of whom only a small number receive treatment while incarcerated, poor outcomes for offenders with substance abuse is not surprising. Specifically, while in prison, only 8% of inmates reported participating in Alcoholic Anonymous (AA) or Narcotics Anonymous (NA), 2% reported in partaking in treatment programming, and 10% reported being involved in both AA and NA (Visher & Travis, 2003). Lack of motivation to change substance use behaviors is evident as 12% of participants reported they would continue substance use upon release regardless of detection or consequences (Visher & Travis, 2003). Additionally, White (1998) found that nearly 95% of parolees who reported a history of substance abuse before going to prison reported using again once they were released back into the community (Martin, Butzin,

Saum, & Inciardi, 1999). Considering the large proportion of incarcerated offenders who report substance dependence, coupled with the lack of access to treatment during incarceration, it is not surprising that of those who report a history of substance abuse prior to release, nearly 50% are reconvicted of new crimes, and one-quarter are returned to prison for new offenses (Langan & Levin, 2002).

Although few respondents reported receiving treatment (Visher & Travis, 2003), parolees who attended and participated in drug and alcohol treatment services were less likely to continue their use, and moreover, are less likely to be reincarcerated (Anglin, Prendergast, Farabee, & Cartier, 2002; Visher & Courtney, 2007). The benefits of AODA treatment while incarcerated suggests that treatment upon release may be a powerful protective factor against recidivism. Due to the sparse access to AA/NA programs during incarceration, local resources and organizations may be especially salient to those who have histories of alcohol or drug abuse or dependence. Further examination of the effects of local resources on parolee outcomes of individuals with substance dependence may aid in developing strategies to decrease the high recidivism rates among this group.

Employment

Nearly all soon to be released inmates (96%) expressed that they were concerned with finding and maintaining employment upon release, and the large majority (87%) voiced that obtaining stable employment was a necessity if they were going to be able to remain crime-free and outside the prison walls (Visher et al., 2003). Although employment is desired by parolees, their ability to obtain employment is often limited (Grogger, 1995; Kling, 1999), as the stigma attached to incarceration decreases the likelihood of parolees being able to obtain employment (Pager, Western, & Sugie, 2009; Petersilia, 2003). Unfortunately, only a fraction (14%) of

inmates have perspective employment in place prior to release (Visher & Travis, 2003), and nearly half of parolees report being unemployed throughout their terms of community supervision (Solomon, Visher, La Vigne, & Osborne, 2006).

Parolees who are employed have been found to be three times less likely to be rearrested (Meredith, Speir, & Johnson, 2007), and less likely to be reincarcerated when compared to those who are unemployed (Kassebuam, 1999). Listwan and colleagues (2013) found that among recently released offenders, those who were employed were 28% less likely to be arrested and 45% less likely to be reincarcerated. Due to findings suggesting that employment is a protective factor against reincarceration, this variable should be considered within parolee outcome models.

Education

Education, even when controlling for employment status, is a strong predictor of parolee success. Orrick and colleagues (2011) found that higher education was associated with decreases in parolee recidivism and reconviction for drug crimes, violent crimes, and property crimes, while holding other individual-level variables constant (see also, National Research Council, 2007). Similarly, Huebner and Berg (2011) found that parolees who were reconvicted for new crimes were 18% less likely to have graduated from high school when compared to those who were not reconvicted. In light of the protective effects education has on parolee outcomes, it is unfortunate that a substantial proportion (55%) report never having obtained their high school diploma (Visher & Courtney, 2006). The strong effects of education on parolee outcomes indicates that high school education should be included within parole outcome models as a control variable.

Family Structure and Marital Status

Theoretically, it has been argued that marriage and familial ties may aid in the reentry process by offering support and housing to newly released offenders (Visher & Courtney, 2006), as well encouragement to desist from crime (Laub & Sampson, 2003). Although some of the empirical literature indicates that marriage may be a protective factor against reincarceration (Huebner & Berg, 2011; Visher, Knight, Chalfin, & Roman, 2009), other findings suggest marriage (Chamberlain & Wallace, 2015) and children (Huebner & Berg, 2011) may increase the likelihood of recidivism.

Visher and colleagues (2009) found that married, released offenders had half the odds of self-reporting the commission of a new crime when compared to single, released offenders. Additionally, marriage decreased the odds by one-half for self-reported drug use (Visher et al., 2009). Huebner and Berg (2011) used parolee reconviction data that spanned eight years, and completed both survival and logistic regression analyses. They found that males who were in a sustainable marriage were 2.61 times less likely to be convicted of a new offense, and of those who did recidivate, marriage delayed the time from release to reconviction. Conversely, others have found that marriage is no longer associated with decreased likelihood of parolee reincarceration once neighborhood-level variables are introduced into the model (Chamberlain & Wallace, 2015), and that the presence of children within the household actually increased the likelihood of a reconviction (Huebner & Berg, 2011).

Housing

The type of housing that parolees reside in has become an area of interest in recent studies. As previously discussed, convicted felons are often restricted from living in certain

areas, such as state funded housing projects (e.g., Section VIII housing)[3] (Philadelphia Housing Authority, 2017). Additionally, specific types of offenders have greater regulations on housing placed upon them (for a discussion of sex offender housing barriers, see Hipp, Turner & Janetta, 2010; Rydberg, Grommon, Huebner, & Bynum, 2014).

Although somewhat limited, the existing literature has identified a permanent place of residence as a predictor of favorable parole outcomes. Here, it has been found that those parolees who are able to secure stable housing are less likely to be rearrested and/or reincarcerated following release, as compared to those with more sporadic or temporary housing arrangements (Huebner & Berg, 2011; La Vigne & Parthasarathy, 2005; Makarious et al., 2010; Tillyer & Vose, 2011). Although this relationship appears to be promising, further inspection of variations in housing and a clearer definition of what stable housing entails needs to be established. Moreover, the effects of non-traditional housing situations (e.g., shelter, community corrections centers, community corrections facilities) should be considered in future research.

Level of Risk

Many of the individual-level measures discussed above are captured by the Level of Service Inventory-Revised (LSI-R; Andrews & Bonta, 1995), which is one of the most commonly used assessment tools in calibrating parolee risk (Labrecque, Smith, Lovins, & Latessa, 2014). The LSI-R is a semi-structured interview administered by an interviewer[4] to the parolee, and includes 54 questions that span across 10 domains[5]. These domains take into

[3] In the city of Philadelphia, which is the site of the current study, felons are prohibited from living in state funded housing projects (e.g., Section VIII Housing).
[4] In Pennsylvania, the site of the current study, the LSI-R is administered upon arrival to prison.
[5] The LSI-R domains include: criminal history (10 items), education/employment (10 items), financial standing (2 items), family/marital (satisfaction and criminal involvement) (4 items), living accommodations (3 items), leisure and recreational activities (2 items), friends (satisfaction and criminal involvement) (5 items), history of alcohol and drug problems (9 items), history of emotional and personal problems (5 items), and attitudes and orientation (4 items) (Andrews & Bonta, 2006; Austin et al., 2003; Kim, 2010).

account both static and dynamic factors of the parolee, and include: criminal history, education, familial/social support, alcohol and drug use, employment status and income, age, and sex offender status to compute the parolees' risk of recidivating (Andrews & Bonta, 2001; Fass, Heilbrun, DeMatteo, & Fretz, 2008; Kim, 2010).

Scores on the LSI-R score range from zero to 54, and are broken into three categories: low (scores from 0 – 23 points), medium risk (24 – 33 points), and high risk (34 – 54 points) (Andrews & Bonta, 1995). Movement upwards from each risk level is associated with increased likelihood of recidivism. Of low risk parolees, approximately 12% to 31% recidivate, of medium risk parolees, approximately 48% to 57% recidivate, and approximately three-quarters of high risk parolees recidivate (Andrews & Bonta, 2001).

The validity of the LSI-R, and its ability to predict recidivism has been greatly recognized. Of such findings, two studies were of particular interest, as they used PA-DOC and PBPP data (two of the data sources used for the current study). The first study was completed by Austin and colleagues (2003) in Pennsylvania. The researchers' aims were two-fold; to assess inter-rater reliability of assigning LSI-R scores, and to test the validity of LSI-R scores to predict recidivism[6]. They found that interrater reliability of scoring was fairly strong, with 88% of overall scores matching across test administrators. They also found that the LSI-R was a fairly accurate predictor of recidivism; however, only eight of the 54 items included in the LSI-R were found to be significantly associated with recidivism, and included static items related to criminal history and AODA history (Austin et al., 2003, p. iii).

Second, Kim (2010) found the LSI-R score to be a valid predictor of parole recidivism. She employed the PA-DOC definition of recidivism, which maintains that an ex-offender

[6] Austin et al. (2003) identify recidivism as arrests, detention, absconding, or reincarceration.

recidivates if he or she "return to custody of the PADOC for any reason" (PADOC, 2006, p. 11; in Kim, 2010, p. 81). LSI-R score was found to strongly predict parolee recidivism across sexes, target offense types, and racial categories, and moreover, was found to be one of the strongest individual-level predictors or recidivism[7].

Level of Supervision

Upon release, parolees are assigned a level of supervision, which is generally based on their LSI-R score (Kim, 2010). The level of supervision that a parolee is assigned to affects the frequency of contact with a parole officer, rigidity of conditions of parole, treatment requirements, and many other regulatory conditions. Findings regarding the effect of the level of supervision on parolee outcomes are unclear. Although some researchers suggest that higher dosages of post-release supervision are associated with decreases in reconvictions for nonviolent offenses (Orrick et al., 2011), others have found that more frequent contacts may have a detection effect. For example, Kubrin and Stewart (2006) found that parolees who had higher levels of supervision had odds of arrest that were 22% greater compared to those under lower levels of supervision (Kubrin & Stewart, 2006). Similarly, Chamberlain and Wallace (2015) found that parolees who were under intensive supervision (i.e., extremely high levels of supervision) were three times as likely to be reincarcerated when compared to parolees under lower levels of supervision. Additionally, other studies find null effects when considering this relationship (Solomon et al., 2005). This relationship warrants further examination to determine if the level of parolee supervision is predictive of successful or unsuccessful parole terms.

[7] Other strong predictors of recidivism included age, sex, and target offense type.

The Current Standing of the Literature

In his State of the Union address, former President George W. Bush declared that "America is the land of second chances, and when the prison gates open, the path ahead should lead to a better life" (as cited by Travis, 2005, p. 285). The path to a better life for released offenders is often obstructed by an array of barriers, leading to the majority of parolees returning to prison rather than leading to a prosperous life within the community. This chapter has reviewed what is currently known about risk and protective factors for parolee reincarceration. The individual-level factors included in models have generally remained the same over the last century, although variation in outcomes within each of these parolee characteristics still exist. The desire to further identify variables associated with reincarceration has resulted in the recent incorporation of macro-level predictors consistent with social disorganization and control into models examining parolee outcomes.

The current literature delivers somewhat ambiguous results. These mixed findings may be the result of employing different definitions and measurements of recidivism across studies. This leads to the inability to compare results because of the use of different measures of recidivism and varying units of analysis. Although researchers have called for further replication of studies (Kubrin & Stewart, 2006), the variation in study parameters leads to limited generalizability of results. To further extend our knowledge and understanding of variations in parolee outcomes, we must consider methodological and operational problems in existing studies. The next chapter reviews the deficiencies and limitations of some of the previously employed measures used within models examining parolee outcomes. Additionally, the methodological strategy for this study will be outlined, with an aim of remedying some of the discussed methodological issues.

Call for Research

Although researchers have recently begun to include neighborhood-level predictors in their examination of parolee outcomes, there is still a great amount of work to be undertaken. Future research should examine additional contextual neighborhood-level variables, as well as mediation and moderation effects (Bensel et al., 2015; Kubrin & Stewart, 2006). Another area that has quite consistently been identified as needing further examination is "what is it about returning to an affluent neighborhood, for example, that amounts to a protective factor in ensuring successful reintegration?" (Wright & Cesar, 2013).

Many researchers have stated that the access to and availability of local resources has the potential to attenuate the effects neighborhood disadvantage on parolee recidivism (Kubrin & Stewart, 2006), yet fail to fully consider this relationship within empirical models. Although research has begun to assess the ability of local social service agencies to aid in diminishing the effects of disadvantage on parole (Hipp et al., 2010), studies have failed to disaggregate institutions by differences in organization and missions, which may influence the level of engagement they have with community members. In terms of the parolee recidivism literature, this may be an especially important extension of the current research, as findings have indicated parolees' vast need for resources upon release. The current study aims to fill some of the void in the parolee literature by incorporating appropriate measures of neighborhood context and recidivism, as well as through the addition of noneconomic neighborhood institutions.

Parolee Outcomes & Institutions

Although some studies have considered the availability of social service resources within defined spatial areas, research has not examined neighborhood-level variations in parolee outcomes using appropriately defined spatial areas. The aim of the current study includes six

primary areas of inquiry. First, to what extent are parolee outcomes predicted by neighborhood disadvantage and mobility. Second, it is hypothesized that technical parole violators (TPVs) will be more influenced by neighborhood context, as TPVs are the results of less serious behaviors (e.g., consuming alcohol, staying out past curfew, not securing gainful employment). Because such behaviors do not necessarily have a direct victim, and may not attract the attention of formal controls (i.e., law enforcement officers), neighborhood controls may be more important. Third, to what extent do local noneconomic institutions, such as churches and service providers, effect parolee outcomes? Fourth, are noneconomic institutions capable of attenuating the effects of neighborhood disadvantage and mobility on parolee outcomes? Fifth, do the effects of neighborhood context and institutions vary dependent on the length of time from incarceration to parole deletion? And lastly, are certain categories of parolees (e.g. those with alcohol or drug dependency) more affected by neighborhood noneconomic institutions when compared to other groups? The next chapter reviews the methodological approaches used for the analysis to test these questions.

CHAPTER IV: DATA AND METHODOLOGY

Research Hypotheses

The purpose of this dissertation is to explore the effects of various neighborhood-level characteristics on parolee outcomes. First, this dissertation hypothesizes that neighborhood-level economic disadvantage and mobility will have several effects on parolee outcomes. Three set of hypotheses regarding the effect of socioeconomic disadvantage and residential mobility on parolee reincarceration will be tested, and include:

$H1_a$: Parolees residing in block groups with higher levels of disadvantage and mobility will have higher odds of parolee reincarceration, while controlling for individual-level parolee characteristics.

$H1_b$: The effects of block group disadvantage and mobility on parolee reincarceration will have a greater effect on parolees reincarcerated as the result of a technical violation (TPV), compared to those reincarcerated for a new offense (CPV).

$H1_c$: The effects of block group disadvantage and mobility will vary based on the length of time between release from prison and parole deletion (i.e., successful discharge from parole supervision or reincarceration).

Second, this dissertation aims to identify if churches, and moreover, specific categories of churches effect parolee outcomes. Analyses will test five hypotheses related to the effects of churches on parolee reincarceration. These hypotheses include:

$H2_a$: Parolees residing in block groups with a greater number of bridging churches will have decreased odds of reincarceration; however, Evangelical churches will not have an effect on parolee outcomes.

$H2_b$: The number of churches within block groups will have a greater negative effect on parolees reincarcerated as the result of a technical violation (TPV).

$H2_c$: The number of churches within block groups will be moderated by the level of neighborhood disadvantage, in that churches within extremely disadvantaged neighborhoods will have the greatest effect in decreasing the odds of reincarceration.

$H2_d$: The effect of the number of churches within block groups on parolee reincarceration will vary based on the length of time between release from prison and parole deletion.

$H2_e$: The negative effect of the number of churches within block groups on parolee reincarceration will be stronger for parolees who have higher AODA subdomain scores, when compared to those with lower AODA subdomain scores.

Third, based on the literature regarding parolees' needs for service upon reentering the community, this study will examine the effects of service providers on parolee outcomes. Specifically, six hypotheses pertaining to the effects of service providers on parolee outcomes will be tested, and include:

$H3_a$: Parolees residing in block groups with a greater number of service providers will have lower odds of reincarceration.

$H3_b$: The negative effects of Department of Corrections referred service providers (DOC SPs) will have greater effect on parolee outcomes, compared to general service providers (GSPs).

$H3_c$: The number of service providers within block groups will have a greater negative effect on parolees reincarcerated as the result of a technical violation (TPV).

$H3_d$: The number of service providers within block groups will be moderated by the level of neighborhood disadvantage, in that service providers within extremely disadvantaged neighborhoods will be associated with greater decreases in the odds of reincarceration.

$H3_e$: The effect of the number of service providers within block groups on parolee reincarceration will vary based on the length of time between release from prison and parole deletion.

$H3_f$: The effect of the number of service providers within block groups on parolee reincarceration will be stronger for parolees with higher AODA subdomain scores, when compared to those with lower AODA subdomain scores.

The remaining portion of this chapter discusses the site for the current study, the units of analysis, data sources, the sample, and the variables used to examine these hypotheses. Additionally, the analytic plan to test the aforementioned hypotheses is discussed.

Research Site of Study

The dataset includes three years of follow-up data on parolees who were released from prison on to terms of parole during the 2010, 2011, and 2012 calendar years, in Philadelphia, Pennsylvania. Philadelphia is a large, urban city in the South Eastern portion of Pennsylvania (see Appendix A). According to the 2010 U.S. Census, Philadelphia had a total population of 1,526,006 residents. Of these residents 43.4% reported that they were Black, and 41.0% reported they were White, whereas 13.6% of U.S. residents reported they were Black and 74.8% reported they were White. Of Philadelphians who were 25 years of age or older, 76.4% reported they had earned at least their high school degree, whereas 86.3% of the U.S. population reported they had earned at least their high school degree. A majority of Philadelphia residents reported that they were employed (59.3%), which was slightly higher than the percent of American's who reported

that they were employed (57.7%). Approximately one quarter of Philadelphia residents reported incomes that were below the poverty line (26.7%), compared to 15.6% of U.S. residents (United States Census Bureau, 2010).

Each year, Philadelphia's Department of Corrections releases approximately 10,000 offenders from prison onto terms of parole, which is more than any other county in the state of Pennsylvania (Bell et al., 2013). According to the Pennsylvania Recidivism Report, from 2006 through 2008, Philadelphia was the county with the highest 3-year rearrest rate (60.1%, n = 6,249) of parolees within the state; however, surprisingly, Philadelphia was not among the ten counties with the highest reincarceration rate of parolees (Bell, et al., 2013).

Unit of Analysis

To examine each of the research hypotheses outline above, this study employs a multi-level design, which uses both individuals and neighborhoods as the units of analysis. At the neighborhood-level, Census block groups are used to define "neighborhoods." One of the unique features of the dataset used for this study is that it contains data on which Census block each parolee was residing within at the end of the study period. These data were aggregated to the block group level, and will be used in the neighborhood-level analysis. According to the U.S. Census Bureau (2012), a block group is a continuous cluster of blocks, and generally houses between 600 and 3,000 individuals. As of 2010, Philadelphia had a population of 1,526,006 residents, living within 590,071 households, situated within 1,336 block groups (United States Census Bureau, 2010). Although several researchers have argued that block groups are the appropriate level of analysis to use when examining neighborhood characteristics (Broidy et al., 2009; Lee & Ousey, 2005; Slocum et al., 2013), many researchers have failed to include block groups as the unit of analysis.

As reviewed in Chapter II, a number of studies have used county-level data to examine the effects of churches on crime rates. The use of county-level data can be problematic because counties are spatially large areas, which are often economically and racially diverse. In using such a large unit of analysis, differences among areas within these larger units are likely to be suppressed, leading to the potential for aggregation biases to arise (Lee & Ousey, 2005). For this reason, researchers have argued that block groups are the appropriate proxy to use when considering neighborhood parameters (Weisburd, Groff, & Yang, 2012), and allow for the examination of racial and ethnic patterns (Grannis, 1998). Recently, more studies have begun to use block groups as the level of analysis in the study of parolee outcomes; however, the literature in this area remains sparse.

Data

The current study uses secondary data analysis of parolee data that were obtained from the Pennsylvania Department of Corrections (PA-DOC) and the Pennsylvania Board of Probation and Parole (PBPP) for all inmates released from prison onto parole terms from January 1st, 2010 through December 31st, 2012[8] in Philadelphia, Pennsylvania (N = 10,892). Data on parolee success or failure were collected for three years following the release date of each parolee (See Appendix B for the agency of data origin).

Sample

Records were received for 10,892 individuals who were released onto parole in Philadelphia, Pennsylvania throughout the 2010, 2011, and 2012 calendar years. Of those, a review of the identification numbers assigned to each parolee showed that 89 cases were

[8] These years were selected to allow for the most recent and complete data on parolee characteristics and outcomes.

duplicate cases, and each of these cases were removed from the sample. An additional 1,793 cases were omitted because their records had no data on parolee demographics and target offense[9] data, and 678 cases were excluded on account of missing parolee outcome data. Unfortunately, due to the complete absence of demographic and/or outcome data for these cases, it was not possible to conduct analyses testing differences between these cases and those included within the sample. Additionally, parolees who had a final address at one of the Philadelphia jails (n = 75), a secured Community Correction Centers (CCCs) (n = 53), or secured Community Correction Facilities (CCFs) (n = 1,426) were omitted from the sample[10]. One parolee was successfully discharged from parole on the day of release, and therefore, was omitted from the sample. Additionally, one case was opened in error, and for this reason, was removed from the sample.

Among the data obtained from PA-DOC and PBPP were Census block identification numbers for each parolee's location of residence at the end of the study period. Block data was of great importance because it allowed for the geocoding of parolees to Census block groups. Because the focus for this study is on the effects on neighborhood characteristics, and especially the presence of specific neighborhoods institutions on parolee outcomes, it was necessary to have a sufficient number of parolees in each Census block group to create reliable estimates. Moreover, the literature identifies that to obtain sufficient power in multilevel models, the analyst should include a minimum of 100 groups (e.g., block groups) with at least 10 cases per

[9] Target offense is used to represent the offense that the individual was incarcerated for, and for which the individual was being released onto parole.

[10] Parolees who had a final address in a jail, CCC, or CCF does not necessarily mean they were revoked from parole. In some cases, this may be an intermediate sanction or a proactive tactic. Data were obtained from PA-DOC regarding which CCCs and CCFs were secured facilities (i.e. residents were not permitted to leave the facility). Because the current study is interested on the effects of community context and institutions, parolees within secured CCCs and CCFs were removed from the sample, as the surrounding ecological context cannot reasonably be said to have an effect on their behaviors.

group (e.g., parolees) (Kreft, 1996). For this reason, only block groups with 10 or more parolees were included within the sample. In order to identify these parolees, SPSS version 22 was used to create a frequency distribution on the Census block groups for parolees' last known addresses was conducted. From this frequency distribution, all block groups with frequencies of 10 or more parolees were identified and included within the sample. All parolees living in block groups with fewer than 10 released parolees (n = 3,700) were omitted from the sample, resulting. The deletion of block groups with less than 10 parolees led to a total of 209 neighborhoods included in the sample, but it also resulted in the omission of an additional 3,700 cases that were not in neighborhoods with a sufficient number of sample parolees. This resulted in a final sample size of 3,077 parolees.

Next, both vector data (i.e., visual/map data, such as block group shapefiles, street centerline files) and tabular data (e.g., tables with street names) were obtained from the Pennsylvania Spatial Data Access website. Using ArcGIS version 10.3.1, parolee data were joined with both spatial and tabular data to create a block group shapefile that only included those block groups with 10 or more parolees (hereafter, sample block groups) (see Appendix B for map of focus block groups). The deletion of block groups with less than 10 parolees (n = 1,127) resulted in 209 neighborhoods included in the sample. Within the sample block groups there was an average of 14.72 parolees, and the number of parolees ranged from the minimum cutoff of 10 parolees to 77 parolees within the sample block groups (see Appendix C for map of parolee frequencies across sample block groups). Because the sample of parolees used in this study is much smaller than the original sample, and because that is largely due to the loss of parolees who were paroled to neighborhoods with fewer than 10 parolees, differences between

the sample and non-sample parolees and differences between the sample neighborhoods and non-sample neighborhoods were examined.

The sample was found to be significantly different from those who were not included within the sample, in that those within the sample were more likely to be non-White, males, single, and have felony target offenses (see Appendix D for T-Test findings). Additionally, those within the sample were less likely to have attained their high school degrees, when compared to non-sample parolees. Similarly, block groups included within the sample were significantly different from block groups that were not included in the sample (see Appendix E for T-Test findings). Sample block group had significantly higher means of the percent of residents who were unemployed, percent of residents who had not attained their high school degrees, percent of residents that were non-White, percent of female-headed households with minor children, percent vacant units, and percent renters.

Demographic data for each of the Census block groups within the sample were collected from the 2010 through 2014 American Community Survey (ACS-2014, 5 year estimates). Specifically, these data were obtained through the U.S. Census Bureau's website. Next, data on locations of all houses of worship (hereafter, churches) in Philadelphia (n = 1,226) were collected using the Reference USA Historical Businesses[11] database. Reference USA not only provides information about current addresses of businesses, but also identifies previous addresses and which years that they were located at each of these addresses (see Appendix F for map of church locations).

Lastly, data on two categories of service providers were collected from two sources. First, data on DOC referred service providers were obtained from a pre-release manual

[11] The presence and location of churches within the ReferenceUSA database were cross-referenced using data from a GIS map on the Association of Religion Data Archives (ARDA) and Yellow Pages™ websites.

(*Resource Manual for Successful Transition Back to Philadelphia County*) that is distributed by PA-DOC to all inmates prior to release from prison. This manual provides a comprehensive directory of service providers (n = 145) that may be especially helpful to parolees returning to Philadelphia communities (e.g., AA/NA, health care, counselling, mentorship). The directory includes the name, telephone number, and address of the service provider, as well as the services offered, eligibility criteria for services, fees, and the hours of operation. The second category of service providers included data on all service providers within Philadelphia that were listed within the Prisoner Reentry Network website developed by The Philadelphia Prison Society and Trilogy Integrated Resources (n = 137) (see Appendix G for map of general and DOC referred service providers). These service providers spanned across a wide array of areas of services offered, including: advocacy, behavior and mental health, domestic violence and sexual assault, education, employment, faith-based programs, family services, finances, health, housing, initial reentry services, legal service agencies, and substance abuse.

Measures

Dependent Variable: Recidivism

The dependent variable of interest for this study was parolee recidivism. As discussed in Chapter III, researchers have employed a variety of measures in attempts to examine parolee recidivism. At the current time, there is "no single national standard" for what is considered to be parolee success or failure (Travis & Lawrence, 2002, p. 18), resulting in the inability to draw meaningful comparisons across research findings. Researchers have defined measures of recidivism as: a new arrest (Chamberlain & Wallace, 2015; Kubrin & Stewart, 2006; Listwan et al., 2013; Meredith et al., 2007; Solomon et al., 2005), parole revocation (Bensel et al., 2015), conviction of a new offense (Huebner & Berg, 2011; Orrick et al., 2011), and reincarceration

(Chamberlain & Wallace, 2015; Hipp et al., 2010; Listwan et al., 2013; Mears et al., 2008; Visher & Courtney, 2007; Stahler et al., 2013; Steen & Opsal, 2007).

It is important to keep in mind that parolees often cycle in and out of jails while under supervision. Parolees may be rearrested and held in jail for a period of time for variety of reasons, not all of which are due to being convicted for new offenses. For example, a parolee may be arrested, but later have any charges dropped due to a lack of evidence, or an individual may be arrested in error. Furthermore, arrest does not always result in revocation from parole, and moreover, many times, may not result in the individual being returned to prison. Estimates suggest that parolees spend approximately five percent of their time under community supervision in jail, or stated differently, parolees spend an average of one out of every 20 days in jail throughout their community correction sentences (Camp & Camp, 1998).

Researchers have generally failed to clarify if any period of time spent incarcerated (e.g., short periods of time spent in jail) is included in their measure of reincarceration. In many cases, it can be concluded that any period of time spent in jail or prison is deemed to be a parole failure, although these short terms do not always result in parole revocation. Simply using an unspecified measure of reincarceration has the potential to lead to over estimating reincarceration and the potential to elicit misleading results. Of the measures used, reincarceration of the parolee should be considered to be the most conservative of these measures employed. The parolee must first have been arrested, and then either convicted of a new offense or had his or her parole revoked for a technical violation before being returned to prison.

Furthermore, researchers have generally considered parolee outcomes to be a dichotomous measure of success or failure (Bensel et al., 2015; Hipp et al., 2010; Kubrin & Stewart, 2006; Stahler et al., 2013), without disaggregating the outcome by reason for failure.

Parolee reincarceration can be the result of either violating conditions of parole (TPV) or for the commission and conviction for a new offense. Technical violations are, in most cases, not illegal acts and usually do not involve the victimization of another individual[12]. Estimates suggest that a vast majority (as high as 76.9%) of parole revocations are the result of technical violations (Camp & Camp, 1998). Decoupling technical violations from new offenses may be key in understanding variations in parole outcomes.

Parolees are often required to serve terms of parole for up to several years. Of parolees in the sample, the average length of time served under parole supervision was approximately two and one half years (29.85 months), and ranged from 0.00 years (0.00 months) to 6.20 years (74.20 months). Regarding the sample's length of parole supervision, there are two thing to keep in mind. First, as reported, the range of supervision length has a minimum value of 0.00 months. This score of zero was the result of one parolee being revoked for the commission of a new offense on the same day that he was released from prison. Second, over one-third (35.47%) of parolees in the sample were serving parole sentences longer than three years. The literature states that the vast majority of parolees who recidivate do so within three years of release, with only an additional 10 percent of parolees being rearrested in the fourth and fifth years after release (Durose et al., 2015). Because the empirical literature has identified that a small percentage of parolees are rearrested after successfully serving three years on parole, this dissertation ceases

[12] Parole conditions for parolees under PBPP supervision generally include: (1) reporting in person or writing to the district sub/office within 48 hours of release, (2) residing in an approved location (i.e. "homeplan"), (3) maintaining regular contact with the parole supervision staff (PSS) as reported, (4) notifying PSS within 72 hours of arrest or citation, (5) notifying PSS within 72 hours of change in status (e.g., employment, education), (6) complying with all county, state, and Federal criminal laws, including vehicles and liquor codes, (7) abstaining from possession, sale, or use of narcotics, dangerous drugs, and controlled substances, (8) refraining from owning or possessing firearms or other weapons, (9) refraining from any assaultive behavior, (10) payment of fines, costs and restitutions as imposed by the sentencing court, and (11) compliance with special conditions of parole as imposed by the Board (e.g., treatment, CCC residency, drug and/or alcohol treatment, curfew, sex offender treatment, mental health treatment, enrollment in ABE/GED programming, TASC participation, re-entry program participation).

data collection after three years of parole supervision has successfully been completed. For the purposes of this study, parolees who have successfully completed their parole sentence for the three years following release will be considered to have a successful parole term (coded as "0"). Additionally, parolees who were still serving terms of parole supervision extending past the three year study period, and were not reincarcerated for a CPV or TPV (n = 648) will be coded as having a successful parole term.

In the dataset used for the current study, each parolee in the sample was assigned one of 10 "delete codes" either at the point of revocation or at the end of the three year study period (see Appendix H for a list of delete codes and definitions). Some of the codes included in the original dataset required further review to ensure that parolee outcomes were coded into the correct category. For example, 1.8 percent (n = 59) of parolees in the sample were deleted from parole due to death. Of those parolees who died during their term of supervision, 42 parolees' deaths were determined to be non-criminal deaths (code 47), whereas 17 parolees' deaths included criminal activity (code 48). Because the current study aims to employ the most conservative measure of recidivism (i.e. reincarceration), these parolees were not coded as recidivists. Although 17 parolees' deaths were related to criminal activity, it is not clear if these individuals were the perpetrator or the victim, and moreover, they were not subsequently convicted of any offenses. For this reason, these parolees were coded as not having been reincarcerated as the result of a TPV or CPV leading up to the date of their deaths.

Additionally, two codes represented administrative closures, and included both unsuccessful (code 44; n = 100) and successful closures (code 45; n = 42). In order to identify if parolees assigned to these codes had been reincarcerated or successful in completing their terms of parole, data from PBPP "Board Actions" were consulted. This dataset includes information on

hearings for both CPVs and TPVs, such as the board action date, disposition/recommitment type, length of additional sentence, the type of criminal offense, and data regarding any conditions of parole that had been violated. From these data, as well as data on each parolee's date of commitment to and discharge from prison, it was possible to determine if these parolees were reincarcerated as the result of a new offenses or a technical violations, or had successfully served their parole terms.

Two codes (40 and 42) represented that the parolee had been recommitted to prison as the result of being convicted of a new offense (CPV). One code (41) represented that parolee had been identified as a technical parole violator (TPV), and had consequently been recommitted to prison. Lastly, two codes were identified that indicate parolees served successful parole terms, and including deletion from parole supervision as the result of the expiration of the parolee's maximum sentence length (i.e. "maxing out") (code 43), and early discharge, commutation, or receiving a pardon (code 46).

For the aforementioned reasons regarding the important differences between CPV and TPV reincarcerations, three measures of parolee outcomes were created and included in analyses. First, a variable was created that measured whether or not each parolee was reincarcerated (REINCACERATED). This variable was dichotomized, where those who were reincarcerated in prison as the result of a CPV or TPV were coded as "1," and those who were not reincarcerated in prison for a CPV or TPV within three years following release were coded as "0." Of parolees within the sample, 2,196 parolees (71.4%) served successful parole terms, whereas 881 parolees (28.6%) were reincarcerated within the study period. The extant literature has identified that over half of parolees recidivate within three years of release. In comparison, the percentage of parolees who were incarcerated within the current study's sample appears low. One explanation

for this is that previous studies identify recidivism as arrest or reincarceration that includes brief holdings in jail. The current study uses perhaps the most conservative measure of recidivism, in which to be categorized as a recidivist a parolee must be reincarcerated in prison.

The second measure (CPV) was constructed to allow separate analysis on parolees who had been reconvicted and reincarcerated for a new offense within the study period. This measure was dichotomized, in which those who were reincarcerated as the result of a CPV were coded as "1," and all other outcomes (i.e., those not reincarcerated for a CPV) were coded as "0." Of the parolees included in the sample, 446 parolees (14.2%) were reincarcerated following the conviction of a new offense during the three years after release. The last measure (TPV) was created to allow for analysis to be conducted for parolees who were convicted of a technical parole violation (TPV) within the three year study period. This measure was dichotomized, in which those who were reincarcerated as the result of a TPV were coded as "1," and all other outcomes (i.e., those not reincarcerated for a TPV) were coded as "0." It was found that of those within the study sample, 450 parolees (14.3%) were reincarcerated following a technical parole violation.

It is hypothesized that the effects of neighborhood context on parolee outcomes will vary dependent on the length of time that has lapsed since release from prison (Hypotheses 1c, 2d, 3d). In order to examine this relationship, a series of binary measures were created to consider the amount of time from release to failure. Four timeframes were created, which are consistent with how the extant literature reports parolee outcomes in relation to time (Durose et al., 2014). The first measure (Time 1) was coded where parolees who were reincarcerated within the first six months following release were coded as "1," and those who were not reincarcerated in this timeframe were coded as "0." The second measure (Time 2), was coded where parolees who

were reincarcerated between six months and one year following release were coded as "1," whereas those who were not reincarcerated within this time frame were coded as "0." The third measure (Time 3), was coded as parolees who were reincarnated between one year and six months following release were coded as "1," whereas those who were not reincarcerated during this timeframe were coded as "0." The last measure (Time 4), measured parolees who were reincarcerated between the second and third years following release, where reincarceration was coded as "1," and those who were not reincarcerated during this time were coded as "0." These measures were created for each of the outcomes discussed (i.e., Reincarceration, CPV, TPV).

Independent Variables: Neighborhood-Level

This study's key focus is on effects of three neighborhood-level measures, including economic disadvantage, residential mobility, and local noneconomic institutions (e.g., churches, service providers). Additionally, multiplicative interaction terms were created to identify if the effects of noneconomic institutions are more prominent in neighborhoods experiencing extreme disadvantage or mobility. The following section details the process used to place parolees within neighborhoods, as well an explanation of how neighborhood structural and noneconomic institution measures were collected and constructed.

Each model in the current study included structural neighborhood measures of disadvantage and mobility. It was hypothesized that both economic disadvantage and residential mobility would be associated with greater likelihoods of all three measures of recidivism. These measures were created using block group, population demographic data from the 2010 through 2014 American Communities Survey (2014 5-year estimates). These data were obtained from the U.S. Census Bureau website. Consistent with the social disorganization literature, as well as empirical studies examining the effects of contextual characteristics on parolee outcomes (Hipp

et al., 2010; Kubrin & Stewart, 2006), data for six measures were collected for each of the 209 block groups in the sample. These measures included: (1) percent of residents who were living below the poverty line, (2) percent of residents who were receiving food stamps/SNAP assistance, (3) percent of residents who had not attained at least their high school degree, (4) percent of female-headed household within children under 18 years of age, (5) percent of units that were renter occupied, and (6) percent of residents who lived in a different house five years prior to the survey date. Table 4.1 provides summary statistics for each of these items.

Table 4.1.
Descriptive Statistics: Sample Block Group Census Variable (N = 209).

	Mean	SD	Minimum	Maximum
Below the poverty line (%)	41.16	18.16	1.14	91.18
Receiving food stamps/SNAP (%)	43.96	16.93	0.00	81.79
No high school degree (%)	27.88	13.82	1.09	86.78
Female-headed households (%)	29.21	15.58	0.00	69.64
Renter occupied units (%)	51.30	16.14	13.17	90.96
Moved in past 5 years (%)	24.60	12.36	0.00	63.52

Next, all variables were standardized using z-scores. Next, a Principle Components factor analysis with a varimax rotation was conducted. The six variables loaded onto two distinct constructs with Eigen values greater than one and factor loadings greater than 0.55. Consistent with the literature, these factors were identified to be summary measures of disadvantage and mobility. Four items loaded onto the first construct (DISADVANTAGE). The following are each item and each factor loadings: percent of residents receiving food stamps or SNAP (.883), percent of residents living below the poverty line (.809), percent of residents who had not attained a high school degree (.641), and percent of female-headed households with minor children (.553). Two items loaded onto the second construct (MOBILITY), and included: percent of residents who moved into their current house within the past five years (.913) and percent of

renter occupied units (.760) (Table 4.2). Based on the factor analysis, two regression based factor scores were created to reflect neighborhood disadvantage and mobility.

Table 4.2.
Factor Analysis Loadings for Neighborhood Constructs (N = 209).

	Disadvantage	Mobility
Below the poverty line (%)	.883	
Receiving food stamps/SNAP (%)	.809	
No high school degree (%)	.641	
Female-headed households (%)	.553	
Renter occupied units (%)		.913
Moved in past 5 years (%)		.760

When considering the effects of disadvantage on crime related outcomes, often time's researchers focus on neighborhoods that are at least two standard deviations above the mean score of disadvantage. Overall, the sample block groups score extremely high on measures of economic disadvantage. Wilson (1989) defines neighborhoods with 40% or more of residents living below the poverty line to be in ghetto poverty, or stated differently as extremely disadvantaged (p. 19). The average block group within the sample has approximately 41% of residents living below the poverty line. Moreover, 48.8% of sample block groups fall into Wilson's typology of ghetto poverty. For this reason, when examining the effects of disadvantage on parolee outcomes, analyses will consider block groups scoring one standard deviation or higher above the mean score of disadvantage to be extremely disadvantaged neighborhoods.

Lastly, it should be noted that the current study's measure of disadvantage does not include a race or ethnicity variable. Traditionally, researchers employing a social disorganization theory framework have included a variable that considers racial composition, typically percent Black, which generally loads on to the disadvantage factor. In the current analysis, when

correlation coefficients were examined, the measure of percent Black was negatively correlated with other disadvantage measures, indicating that it does not load in the theoretically expected direction. For this reason, this measure was not included in the factor analysis.

Measures of churches. It is hypothesized that although neighborhood disadvantage and mobility will be associated with negative parolee outcomes, the presence of neighborhood churches will dampen these effects. Measures of churches were collected using the ReferenceUSA Historical Businesses database. These data were cross-referenced with an online Philadelphia directory listings (i.e. Yellow Pages), as well as with data from an interactive GIS map provided on the Association of Religious Data Archives (ARDA) website. The map provided through the ARDA website allowed for visual inspection to verify the placement of each church within the sample block groups and buffered block groups. Furthermore, these files were examined to ensure that no additional churches were present in the study sample of block groups. Lastly, addresses were cross-referenced with data from the online address directory.

Upon the identification and verification of the addresses of churches, the dates that each church was in commission was examined. Only churches that were present at a single location for the entire study period (2010 through 2015) were included in the analysis. For example, if a church was located in a sample block group in 2010, but moved to a different address in 2012, this church was omitted from the dataset. Also, some churches were unoccupied for a period of time within the study period. For example, if a church was in open from 2005 through 2010, and then closed during 2011, but later reopened in 2013 this church was omitted from analysis.

In order to accurately place each church at the appropriate location, an address locator was created using the City of Philadelphia street centerlines. Next, all church addresses within Philadelphia were geocoded, in which 100% of the addresses were matched at a threshold of

80% or greater. Addresses that were matched at a threshold under 100% were individually examined both in the tabular table and on the map to ensure their location was accurate. Upon geocoding all churches within Philadelphia, this file was joined to the block group shapefile to place churches within block groups.

Once churches were geocoded to sample block groups, it was found that there were 265 churches located within the sample block groups. There was an average of 1.27 churches per block group, and the count of churches ranged from zero to nine churches across block groups. The average number of churches within the sample block groups is similar to those found by others using data from other cities (Roman & Moore[13], 2004; Slocum et al., 2013[14]; Warner & Headley[15], 2014).

Although it is important to understand how churches are distributed throughout the study area, and specifically the sample block groups, it should be noted that block groups are constructed using street segments. Because street segments are used to create boundaries, some streets are assigned to two block groups, where the left side of the street is assigned to one block group and the right side of the street is assigned to a different block group. To suggest that the effects of a church on one side of the street will not affect the other side of the street is unreasonable. For this reason, 500 foot buffer zones around the radius of each sample block group were created. Due to the aforementioned reasons, all church measures included in the current study's analysis reflect count measures for the number of churches within buffered block groups (see Appendix I for map of churches within buffered block groups). It is important to

[13] Roman & Moore's (2004) study was conducted in Washington D.C., and found an average of 1.14 churches per Census block group.
[14] Slocum et al. (2013) used data from the South Bronx, New York, and found an average of 1.36 churches per Census block group.
[15] Warner & Headley (2014) used data from two large cities in a Southern state, and found and average of 1.21 churches per block group.

note that because the buffer zones overlap with one another, this results in some churches being counted in more than one block group. Additionally, churches that may not be located within one of the sample block groups but are within the 500 foot buffer zone will be included in the count of churches within the buffer. There were 480 churches located within the buffered block groups, resulting in a total of 863 occurrence of churches within buffered block groups. There was a mean of 4.13 churches per buffered block group, and the number of churches ranged from zero to 15 churches across buffered block groups. The vast majority (92.8%) of buffered block groups (n = 194) had the presence of at least one church.

Unfortunately, studies in this area of research have not included measures of different types of churches (e.g., denomination type, bonding versus bridging). In order to fill this void in the literature, churches were disaggregated by type. As discussed in Chapter II, different types of organizations and churches have been found to have different effects on outcome variables. Scholars have argued that the theological backgrounds of churches often leads to differences in dissemination of social capital and their interaction with the greater community (Beyerlein & Hipp; 2005; Putnam, 1995). For this line of reasoning, churches were categorized into broad theological categories.

Churches were classified using the methodology prescribed by Steensland et al. (2000), in which the name of the church allows for categorization into one of the above listed denominations[16]. In instances where the name of the church did not lead to a clear identification of a category, other means, such as church association directories (e.g., American Baptist Association, Southern Baptist Convention, ChurchAngel, ChurchFinder), church webpages, and church social media outlets (i.e., Facebook) were used to make an identification. Additionally,

[16] It should be noted that according to Steensland et al. (2000), non-denominational churches and "general" Baptist churches are included in the Evangelical Protestant category.

the current study differs from Steensland et al.'s (2000) methodology, as he used individual-level surveys to identify participants' religion. Because of the nature of their methodology, they often used the race of the respondent to distinguish between Black Protestant and Evangelical Protestant churches. In some cases, affiliations (i.e., Missionary Baptist, American Baptist Association) are listed as both Black Protestant and Evangelical Protestant denominations. Steensland et al. (2000) used the race of the respondent in order to classify the church. That is, for these specific denominations, if the respondent was Black, the church was classified as Black Protestant. For non-Black respondents the church was classified as Evangelical Protestant. Because the current study was less interested in individual effects, such churches were classified as Evangelical Protestant, without taking racial demographics into account.

Using the scheme employed by Steensland and colleagues (2002), all churches within buffered block groups areas were categorized as being one of the following denominations: Evangelical Protestant, Mainline Protestant, Black Protestant, Catholic, or "Other" (i.e., synagogues, mosques, and non-Protestant or Catholic Christian churches). The last measure of churches draws from Putnam's (1995) discussion of bonding versus bridging institutions. Bridging churches are identified as those with theologies that are "outward" looking, versus "inward" looking. In general, "outward" looking churches have been identified as Mainline Protestant and Catholic churches (Beyerlein & Hipp, 2005). Because research suggests that bridging churches are capable of attenuating contextual neighborhood effects, a count of bridging churches within each buffered block group (BRIDGING) was created by adding together the number of Mainline Protestant and Catholic churches within each focus block group and each buffered block group. Within the focus block groups, there was a total of 63 churches defined as bridging. The mean number of bridging churches in the sample block groups is 0.30,

and ranged from zero to three bridging churches within block groups. Within the buffered block groups there were 194 occurrences of bridging churches. The mean number of bridging churches within the buffered block group was 0.92, with a range of zero to eight bridging churches within the buffered block groups.

Service providers. Data for the first service providers (DOC SPs) measure was obtained from the PA-DOC service provider manual. Service provider addresses were geocoded using the same, previously discussed, method used for geocoding churches. Within the sample block groups there were 46 DOC SPs. There was an average of 0.22 DOC SPs per block group, and ranged from zero to eight across block groups. Again, it is argued that the effects of DOC SPs on parolee outcomes may not be contained to the boundaries of a block group, and therefore, counts of DOC SPs within buffered block groups were used for analyses. Within the buffered block groups, there were 70 individual DOC SPs located within these areas, with 150 occurrences of DOC SPs within buffered block groups (see Appendix J for map of the frequencies of DOC SPs within buffered block groups). There was a mean of 0.72 DOC SPs per buffered block group, and they ranged from zero to 10 across buffered block groups.

The second measure of service providers included all, general service providers (GSPs) listed on the Prisoner Reentry Network website developed by The Philadelphia Prison Society and Trilogy Integrated Resources. Within Philadelphia there were a total of 529 GSPs. Of these service providers, 96 were located within sample block groups (31.1%). Block groups had a range of zero to six GSPs. Due to the assumption that the effects of service providers will affect the immediate area surrounding the block group, analyses use counts of GSPs within the 500 foot buffer zones surrounding each block group. Within buffered block groups there were 181 unique GSPs, and there was a total of 356 occurrences of GSPs located within buffered block groups

(see Appendix K for map of the frequencies of GSPs within buffered block groups). Approximately two-thirds of buffered block groups (68.94%) had at least one GSP. There was mean of 1.70 SPs per buffered block group, and the number of GSPs ranged from zero to 15 across buffered block groups.

Interactions. Several researchers have argued that the effects of disadvantage on crime may be weaker in the presence of churches. It is posited that disadvantaged neighborhoods may be more influenced by institutions because more affluent neighborhoods may already hold conventional value systems (Tittle & Welch, 1983), whereas disadvantaged neighborhoods may have a void in generating such systems on their own (Kornhauser, 1978; Warner, 2003). To test this, four multiplicative interaction terms were constructed. These variables were created in SPSS version 22, in which each church measure and each service provider measure was multiplied by the mean centered disadvantage construct. Additionally, it is hypothesized that the effects of churches and service providers may be more important for those with greater alcohol and drug addiction (AODA) histories or risks. For this reason, cross-level interaction terms between AODA scores and churches, as well as between AODA scores and service providers were included within models.

Independent Variables: Individual-Level

Although the primary focus of analyses surrounds the effects of neighborhood-level characteristics and neighborhood institutions on parolee outcomes, it is important to also control for individual-level variables. Inclusion of parolee characteristics within multilevel models will allow for the examination of contextual effects, without disregarding the importance of compositional, individual-level effects. The literature has identified an array of individual-level

variables as predictors of parolee recidivism, and therefore, the selection of several individual-level variables was informed by this research.

Parolee demographics. As reviewed in Chapter III, several individual-level demographic characteristics have been found to predict parolee recidivism. Five individual-level demographic variables will be included in analysis: sex ("MALE;" 0 = female; 1 = male), race/ethnicity[17] ("NONWHITE;" 0 = White; 1 = non-White), marital status ("SINGLE;" 0 = married; 1 = not married), high school degree ("GRAD;" 0 = no high school degree; 1 = high school graduate), and age ("AGE;" measured in years).

Target offense characteristics and criminal history. Additionally, several characteristics of the target offense and criminal history will be included in analyses. First, the target offense grade was coded where misdemeanor target offenses were coded as "0" and felony target offenses were coded as "1." Because this sample is comprised of prison parolees, it is not surprising that nearly all parolees (89.4%) had been incarcerated for felony offenses, rather than misdemeanor offenses (10.6%). However, it is somewhat surprising, given that all of the individuals within the sample served their sentences in prison, that approximately 10% had a misdemeanor target offense. Per the Pennsylvania Penal Code (Act 18 Pa.C.S. § 1104) first degree misdemeanors carry a maximum sentence of five years, second degree misdemeanors carry a maximum sentence of two years, and third degree misdemeanors carry a maximum sentence of one year. Next, a series of three binary measures were created in regards to the type of target offense (i.e., property, drug, violent), and included non-violent/property offenses[18]

[17] Although this measure is dichotomized as White versus Non-White, the original data includes ethnicity (e.g., Hispanic) in addition to race.

[18] Non-violent/non-person/property offenses included: arson, burglary, driving while under the influence of alcohol or drugs, forgery, fraud, prison breach, theft, receiving stolen property, weapons charges, and other Part II offenses.

("PROPERTY"), drug offenses[19] ("DRUG"), and person/violent offenses[20] ("PERSON"). Additionally, a continuous measure of the number of prior arrests ("PRIORS") was created as control variable. Here, a score of zero has meaning, in that it represents that the arrest for the target offense was the parolee's first arrest. Lastly, a measure examining the total number of days each parolee spent incarcerated for the target offense ("TARG INC") was included.

Release characteristics. Three release and supervision characteristics were included as individual-level control variables. The first of these measures, is a continuous measure that reflects each parolee's Level of Service Inventory- Revised ("LSI-R") score. As of 2003, Pennsylvania's Department of Corrections integrated the administration of the LSI-R into the inmate intake process. PA-DOC inmates complete the LSI-R interview within the first two weeks following admission to prison, and are reassessed throughout their incarceration (Hardyman, Austin, & Peyton, 2004). Within the current study, the LSI-R that aligned with the current term of incarceration for each parolee was used. For those parolees who did not have a LSI-R score listed within the dataset for the current parole supervision period (n = 284), the previous score given was used. For those who did not have any previous scores listed (n = 9), multiple imputations were conducted using all other variables to calculate an LSI-R predicted score. The second measure, discerned between parolees being released to a CCC, CCF, or other facility ("CENTER") (coded as "1"), and parolees released to the street (i.e., not being released

[19] Drug offenses included: possession of drugs, manufacturing of drugs, and sales of drugs.
[20] Person/Violent offenses included: aggravated assault, general/other assaults, robbery, homicide by vehicle, voluntary manslaughter, involuntary manslaughter, kidnapping, murder I, murder II, murder III, other murder, statutory rape, general rape, and other categories of sex crimes.

to a CCC, CCF, or other facility) (coded as"0"). Lastly, parolee subdomain scores for alcohol and drug use/history ("AODA")[21] from the LSI-R were considered.

Omitted individual-level variables. The LSI-R is considered to be one the most widely used, reliable, and validated parolee risk assessment tool (Austin et al., 2003; Kim, 2010). While incarcerated in PA-DOC institutions, each inmate undergoes completion of the LSI-R assessment. This score travels with them at time of release, and is used to determine level of supervision. As discussed in Chapter III, the LSI-R is comprised of 54 questions that span across an array of aspects of an individual's current and past situations. Because this assessment takes into account many features of parolees' lives, some of the aforementioned variables were omitted from analyses due to overlap with questions asked within the assessment.

The criminal history component of the LSI-R is the lengthiest section, as it includes 10 questions regarding the respondents criminal past, and include items regarding prior arrests and convictions, as well as a question pertaining to the current offense. For this reason, the current study finds that "PRIORS" variable is redundant with the LSI-R criminal history section, and therefore will be omitted from additional models[22]. Additionally, risk assessments take into account the severity of the current offense, and for this reason "FELONY" is omitted from analysis, as it is accounted for by the LSI-R score variable[23]. Lastly, the LSI-R includes several questions regarding employment and education. Two items pertain to the educational attainment, one of which specifically is aimed at identifying if the respondent graduated high school. For this reason, the "GRAD" variable[24] is not used in analyses, as it is accounted for by the LSI-R.

[21] Because the LSI-R score includes the AODA subdomain score, this score was subtracted from the overall LSI-R score to create a separate variable used in models considering both measures.
[22] The average parolee had 10.12 prior arrests, and ranged from zero to 178 prior arrests across parolees.
[23] 90% of parolees within the sample had a target offense that was a felony grade offense.
[24] Approximately one-half of the parolees had not earned their high school degree or GED (50.57%).

Analytical Methods

Hierarchal Linear Modeling (HLM, version 7) will be used to test this study's hypotheses. Employing an HLM design is appropriate due to the self-selection of parolees within neighborhoods, as well as parolees clustering within certain neighborhoods. Those residing within the same neighborhood may be more similar to one another than those who live within other neighborhoods. For this reason, HLM is used to account for the non-independence of observations and error terms of observations nested within neighborhoods (Raudenbush & Bryk, 2002). By employing the HLM approach, it is possible to examine neighborhood-level effects on parolee outcomes, while simultaneously accounting for individual-level predictors.

Because the focus of this study is the effects of neighborhoods on parolee outcomes, rather than individual-level differences, a random intercept, fixed slope model will be constructed. Additionally, because all outcome measures are binary, a logit link function will be needed to allow for the linear transformation of these variables. Below is one of the equations that will be used for the level-1 model:

$$\mathbf{Prob}(REINCARCERATION_{ij} = 1 \mid \beta_j) = \varphi_{ij}$$

$$\log[\varphi_{ij} / (1 - \varphi_{ij})] = \eta_{ij}$$

$$\eta_{ij} = \beta_{0j} + \beta_{1j}(AGE_{ij}) + \beta_{2j}(NONWHITE) + \beta_{3j}(MALE_{ij}) + \beta_{4j}(SINGLE_{ij}) + \beta_{5j}(PERSON_{ij}) + \beta_{6j}(DRUG_{ij}) + \beta_{7j}(CENTER_{ij}) + \beta_{8j}(LSIR^{25}{}_{ij}) + \beta_{9j}(TARGET\_INC_{ij}) + \beta_{10j}(\mathrm{AODA}_{ij})$$

[25] Two additional models were also run to substitute violent/person crimes with drug crimes and non-person/property crimes.

This model will be conducted for each of the outcome measures, including general reincarceration (those resulting from a CPV or TPV), CPV reincarceration, and TPV reincarceration. Additionally, these models will be used to test differences for each timeframe.

Level-2 models will be conducted using several of the aforementioned church measures. Separate models will used to test hypotheses for each of the church measures with buffered block groups (i.e., total churches, categories of churches, bridging churches). Below is one of the separate equations that will be used for the level-2 model.

$$\beta_{0j} = \gamma_{00} + \gamma_{01}*(DISADVANTAGE_j) + \gamma_{02}*(MOBILITY_j) + \gamma_{03}*(BRIDGING_j) + u_{0j}$$

Additionally, models will explore potential moderation effects, with the aim of identifying if the effect of churches or service providers on parolee outcomes are conditioned by the level of block group disadvantage. To test these hypotheses, multiplicative interaction terms between disadvantage and each church or service provider measure will be included within the model. Below is one of the equations that will be used in level-2 modeling to test moderation effects.

$$\beta_{0j} = \gamma_{00} + \gamma_{01}*(DISADVANTAGE_j) + \gamma_{02}*(MOBILITY_j) + \gamma_{03}*(BRIDGING_j) + \gamma_{04}*(BRIDGINGxDIS_j) + u_{0j}$$

Lastly, this study hypothesizes that the effects of churches and service providers may be stronger for parolees with higher AODA scores. For this reason, cross-level interaction terms will be entered within models. Below is one of the equations that will be used to test this effect.

$$\beta_{0j} = \gamma_{00} + \gamma_{01}*(DISADVANTAGE_j) + \gamma_{02}*(MOBILITY_j) + \gamma_{03}*(BRIDGING_j) + \gamma_{04}*(BRIDGINGxDIS_j) + u_{0j}$$

$$\beta_{1j} = \gamma_{10} + \gamma_{11}*(BRIDGING) + u_{0j}$$

Where β_{1j} is the slope coefficient for AODA

The following chapter reviews descriptive, bivariate, and multilevel findings from these analyses, and discusses findings related to hypothesis testing.

CHAPTER V: RESULTS OF ANALYSIS

This chapter presents results related to the importance of churches and service providers on parolee reincarceration. In order to test these hypotheses, several analytical tests were used. First, descriptive findings for each dependent variable, neighborhood-level variable, and individual-level variable are discussed. Second, bivariate findings are reported. Third multilevel modeling was used to examine the hypotheses outlined in the previous chapters.

Descriptive Results

Dependent Variables

The first dependent variable of interest was parolee reincarceration that occurred at any time within the study period (i.e., within three years following release from prison, "general reincarceration). Of those within the sample, 28.63% were reincarcerated within the study period (Table 5.1; Figure 5.1). The rate of parolee reincarceration is consistent with other studies examining reincarceration of parolees within three years of release (Chamberlain & Wallace, 2015; Kasich & Mohr, 2013).

Table 5.1.
Descriptive Statistics: Dependent Variables (N = 3,077).

Variables	Mean	SD	Range
Reincarceration, general	0.286	0.452	0.00-1.00
CPV reincarceration	0.142	0.349	0.00-1.00
TPV reincarceration	0.144	0.351	0.00-1.00

As discussed in Chapter III, when examining neighborhood-level and individual-level effects, it may be important to consider the type of violation committed by parolees that resulted in reincarceration (Hypotheses 1b, 2c, 3c). To examine potential variation between reasons for reincarceration, the general reincarceration measure was disaggregated into two variables:

reincarcerations resulting from the commission of new offenses (i.e., Convicted Parole Violators, CPVs), versus reincarcerations resulting from technical violations (i.e., TPVs). After disaggregation, nearly identical numbers of parolees were reincarcerated for CPVs (14.23%) and TPVs (14.40%), although slightly more parolees experienced TPV reincarcerations than CPV reincarcerations.

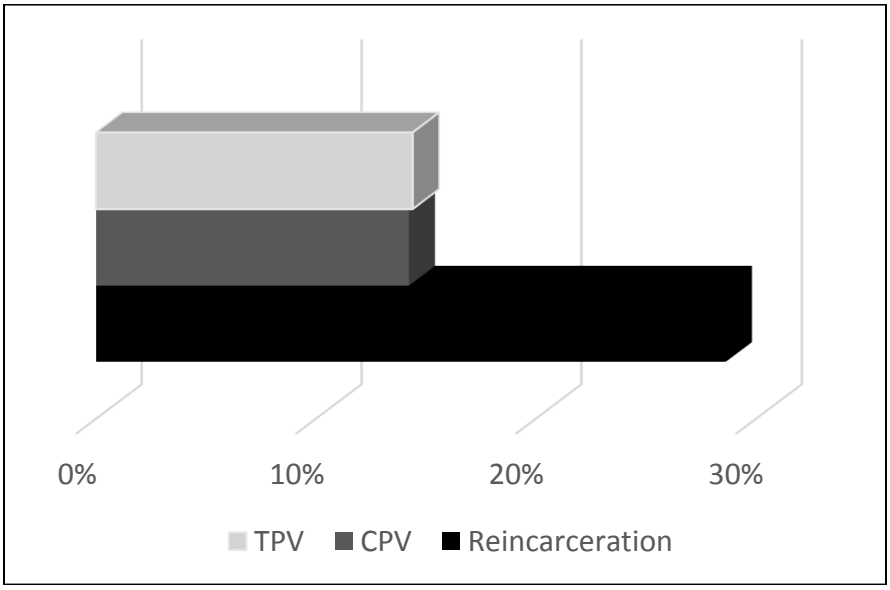

Figure 5.1. Percentages of Parolees Reincarcerated during the Study Time Frame (General, CPV, and TPV Reincarcerations).

Reincarceration over time. In addition to examining the reason for incarceration, it may be important to consider differences between trajectories of offending. The current study hypothesizes that neighborhood effects will vary overtime (Hypotheses 1c, 2e, 3e). To test these hypotheses, parolees were categorized based on the time when they were reincarcerated. The four timeframes included reincarceration occurring within the first six months after release (i.e., Time 1), between six months and one year after release (i.e., Time 2), between one year and two years after release (i.e., Time 3), and between two and three years after release (i.e., Time 4).

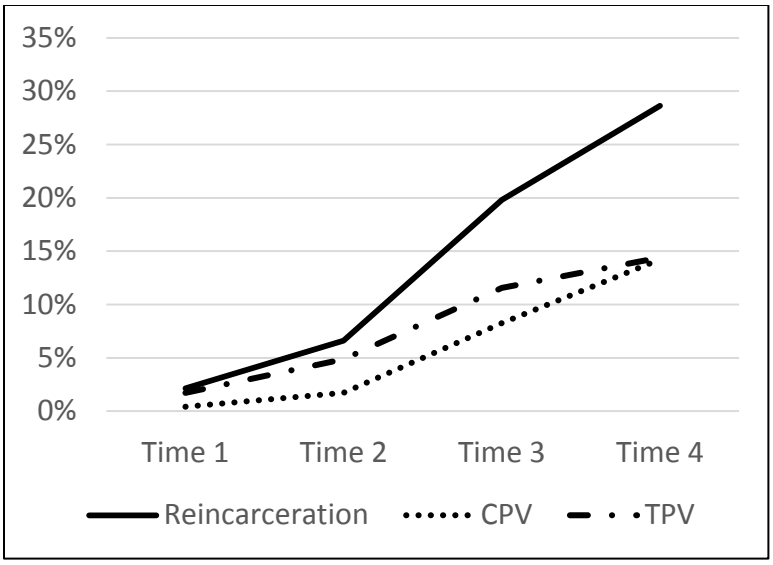

Figure 5.2. Cumulative Percentages of Parolees Reincarcerated across Time (General, CPV, and TPV Reincarcerations).

Although few in number, the number of parolees who were reincarcerated between Time 1 (2.14%) and Time 2 (4.45%) increases quickly (Figure 5.2). During Time 3, the rapid growth in number of reincarcerations (13.23%) continued, although this was followed by a less substantial number of reincarcerations during Time 4 (8.81%). Though CPV reincarcerations were initially less common than TPV reincarcerations, the two categories follow approximately the same pattern in the accumulation of reincarcerated parolees. There were few reincarcerations occurring during Time 1 and Time 2, followed by steep increases in the number of reincarcerations at Time 3. At Time 4, CPV and TPV reincarcerations trends diverge from one another. At this point, the number of CPV reincarcerations continued to steadily expand (n = 184), whereas TPV reincarcerations essentially leveled off (n = 87).

As shown in Figure 5.3, the number of parolees who were reincarcerated doubles from Time 1 (0 to 6 months following release) to Time 2 (6 months to 1 year following release), and then triples during Time 3 (1 year to 2 years following release). The number of parolees who were reincarcerated during Time 3 is greater than the number of parolees incarcerated during any

other timeframe. The second greatest number of reincarcerations took place during Time 4 (2 years to 3 years following release), although only one-half of that occurring during Time 3.

Table 5.2.
Descriptive Statistics: Dependent Variables by Time (n = 3,077).

	% Reincarcerated (N)	Cum. % (N)
Reincarceration, General		
Time 1	2.14% (66)	2.14% (66)
Time 2	4.45% (137)	6.60% (203)
Time 3	13.23% (407)	19.82% (610)
Time 4	8.81% (271)	28.63% (881)
CPV Reincarceration		
Time 1	0.42% (13)	0.42% (13)
Time 2	1.30% (40)	1.72% (53)
Time 3	6.53% (201)	8.25% (254)
Time 4	5.98% (184)	14.23% (438)
TPV Reincarceration		
Time 1	1.72% (53)	1.72% (53)
Time 2	3.15% (97)	4.87% (150)
Time 3	6.69% (206)	11.57% (356)
Time 4	2.83% (87)	14.40% (443)

Two trends emerge when comparing the discrete timeframes when TPV and CPV reincarcerations occurred. TPV reincarcerations nearly doubled during each subsequent time period from Time 1 to Time 3 (1.72%, 3.15%, 6.69%, respectively), at which time the greatest number of parolees experienced TPV reincarcerations. This was followed by a sharp decrease

(57.7%) in the number of TPV reincarcerations at Time 4. There were very few CPV reincarcerations during Time 1 and Time 2, with a much more sudden increase during the second year (Time 3), which was sustained into the third year (Time 4). Within each of these time periods, a greater number of parolees were reincarcerated as the result of a TPV than for a CPV; however, at Time 4, twice as many parolees were reincarcerated for a CPV as for a TPV. At Time 4, instead of mimicking the substantial decline in the number of TPV reincarcerations, there was only a slight decline (8.4%) in the number of CPV reincarcerations.

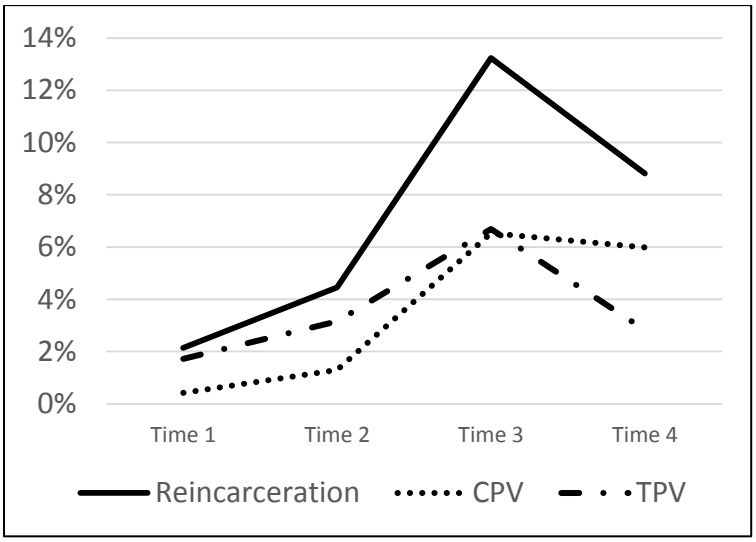

Figure 5.3. Percentages of Parolees Reincarcerated within Each Timeframe (General, CPV, and TPV Reincarcerations).

While the general patterns of all three reincarceration variables are somewhat consistent, the rate of increase in the number of parolee reincarcerations diverge during Time 3 and Time 4. The variation between when violations, and subsequently reincarcerations were most prominent, suggests that technical parole violators may be affected by different circumstances than those who are committing new offenses. It is possible that those who are CPVs may be more similar to general offenders, as they return to prison for a criminal offense, rather than for a non-criminal technical violation. Testing of hypotheses 1b, 2b, and 3c will allow for the examination of

different neighborhood-level and individual-level effects on TPVs versus CPVs to further inquiry this line of reasoning.

Independent Variables

Neighborhood-level variables.

Disadvantage and mobility. This study aims to identify if neighborhood disadvantage and mobility increase the odds of parolee reincarceration (Hypothesis 1a). Moreover, it is suggested that neighborhood effects have a greater effect on the odds of TPV reincarceration (Hypothesis 1b), and that that effects will vary based on the length of time parolees have been released (Hypothesis 1c). To test these hypotheses, disadvantage and mobility factors were created and employed within analyses. As discussed in Chapter IV, data on six demographic variables were collected using the US Census Bureau Fact Finder webpage (see Table 4.1 for descriptive statistics; See Table 4.2 for factor scores). Because these factors are standardized, variables have mean scores of zero, and a standard deviations of one (Table 5.3).

Measures of churches. The second set of hypotheses posit that parolees who are residing in block groups with a greater number of churches will have lower odds of reincarceration. Specifically, pulling from literature indicating that churches (especially bridging churches) are capable of generating and distributing resources to those within their immediate communities, and therefore, bridging churches are hypothesized to have greater effects on decreasing the odds of parolee reincarceration (Hypothesis 2a).

Within the sample block groups there were 265 churches, situated within 132 block groups. The mean number of churches within the block groups was 1.27, and ranged from zero to nine churches. Evangelical Protestant (EP) (n = 169) were the most common type of church, followed by Mainline Protestant (MLP) (n = 41), Black Protestant (n = 23), and lastly, Catholic

(n = 17) churches. Churches identified as "other" (i.e., synagogues, mosques, and non-Protestant or non-Catholic, Christian churches) were added together to make a composite count of "other" churches. Within the sample block groups, 15 churches were categorized as other. Lastly, the number of MLP and Catholic churches was summed to create the measure of bridging churches. There were 58 bridging churches across sample block groups. Due to the few number of Black Protestant, Catholic, and "other" types of churches, these categories of churches were not included in further analyses, although these counts remained in the total churches measure.

Because the presence of churches is argued to have impacts that reach beyond their immediate vicinity, 500-foot buffer zones around each block group were created to identify all churches within a surrounding area. There were a total of 863 churches, located within 194 buffered block groups. Only 7% of buffered block groups (n = 15) did not have the presence of at least one church. The number of churches per buffered block group ranged from zero to 15, and there was a mean of 4.13 churches per buffer zone (Table 5.3).

When examining individual categories of churches, EP were the most prevalent (n = 564). There was an average of 2.70 EP churches per buffer zone, ranging from zero to 13 EP churches across buffered block groups. The second most common type of church was (MLP) (n = 124), which had a mean of 0.59 churches per buffered block group, ranging from zero to four churches within buffered block groups. Lastly, within the buffer block groups there were 177 occurrences of bridging churches (i.e., the count of MLP *and* Catholic churches[26]), with a mean of 0.85 bridging churches across the buffered block groups, a minimum of zero, and a maximum of four bridging churches across buffered block groups.

[26] Within the buffered block groups there were 53 Catholic churches. There was a mean of 0.254 (std. dev. = .498) Catholic churches per buffered block group, ranging from zero to two churches.

Service provider measures. The third set of hypotheses focus on the effects of service providers on parolee outcomes. First, it is hypothesized that parolees residing in neighborhoods with richer service provider bases will have decreased odds of reincarceration (Hypothesis 3a). Moreover, potential differences between general service providers versus DOC referred service providers will be explored (Hypothesis 3b).

The first measure of service providers included general service providers (GSPs) in Philadelphia that were listed on the Prisoner Reentry Network website (N = 529). Of these service providers, 96 were located within 65 of the sample block groups (31.1%), resulting in a majority of block groups having no service providers. Block groups had a range of zero to six GSPs. Again, it is posited that the effects of service providers do not exist in a vacuum, and therefore, 500-foot buffer zones around the perimeter of block groups were created. Within buffer zone there were 356 occurrences of GSPs located within 142 buffered block groups. Approximately two-thirds of buffered block groups (68.94%) had at least one GSP. There was mean of 1.70 GSPs per buffer zone, and the number of GSPs ranged from zero to 15 across these areas (Table 5.3).

Table 5.3.
Descriptive Statistics: Neighborhood-Level Independent Variables (N = 209).

Variables	Mean	SD	Range
Disadvantage	0.000	1.000	-2.47 – 2.50
Mobility	0.000	1.000	-2.47 – 3.31
Total Churches within Buffer Zones	4.129	3.310	0.00-15.00
EP Churches	2.699	2.457	0.00-13.00
MLP Churches	0.593	0.873	0.00-4.00
Bridging Churches	0.847	0.964	0.00-4.00
GSPs within Buffer Zones	1.703	2.214	0.00-15.00
DOC SPs within Buffer Zones	0.718	1.545	0.00-10.00

The second measure of service providers included service providers that were listed within the PA-DOC's "*Resource Manual for Successful Transition Back to Philadelphia County*" (N = 137). Within sample block groups, there were 46 DOC SPs[27], with a mean of 0.22 per block group. The number of DOC SPs ranged from zero to eight across the block groups. Only 12% (n = 30) of block groups had the presence of at least DOC SP. Next, DOC SPs within buffered block groups were examined. There were 150 occurrences of DOC SPs located within 72 buffered block groups (24.4%), meaning that over three-quarters of buffered block groups had no DOC SPs within their boundaries. There was a mean of 0.72 DOC SPs per buffered block group, and these areas ranged from having zero to 10 DOC SPs.

Individual-level measures. Several individual-level parolee characteristic were included within analyses to create well-specified models. Descriptive statistics for each variable are reported in Table 5.4. The first category of interest was parolee demographics. Of parolees within the sample (N = 3,077), nearly all were male (94.18%). This is slightly higher than, but still fairly consistent with the PA-DOC prison population, which is comprised of approximately 92% males (Kim, 2010). Additionally, the majority of parolees identified as being non-White (91.58%), and were not married at the time of their releases (86.71%). Lastly, at the time of release, the average parolee was 36.10 years old, although there was wide variation in parolees' ages (SD = 10.14), with parolee ages ranging from 18.26 to 84.26 years. This is consistent with previous findings on parolee demographics (Hipp et al., 2010; Kim, 2010; Kubrin & Stewart, 2006).

Next, when considering offenses that parolees had been paroled for (i.e., target offense"), nearly one-quarter of parolees (24.31%) had property/non-violent target offenses, 35.46% had

[27] 8 of the DOC SPs were also included in the database of GSPs. These cases remained within both measures.

person/violent target offenses, and 40.23% had drug target offenses. On average, the length of parolee last incarceration was 1,672 days (4.58 years), and ranged from 34 days to 13,502 days (36.99 years). Lastly, measures related to parolees' releases and supervision were considered. Over half of parolees (56.94%) were released to a secured facility (i.e., CCC, CCF, "center"). The mean parolee LSI-R score was 25.02, with scores ranging from two to 48[28]. This aligns with results found in previous studies, which have found the mean LSI-R score to be 25 points (Derrick & Brannon, 2011; Kim, 2010). Additionally, the average AODA score was 3.72, and scores across parolees ranged from zero to nine.

Table 5.4.
Descriptive Statistics: Individual-Level Independent Variables (N = 3,077).

Variable	N	%		
Sex				
Male	2898	94.18		
Female	179	5.82		
Race				
Non-White	2818	91.58		
White	259	8.42		
Marital Status				
Not Married	2668	86.71		
Married	409	13.29		
Target Offense Type				
Drug	1238	40.23		
Person/Violent	1091	35.46		
Property/Non-Person	748	24.31		
Release to Center				
Yes	1752	56.9		
No	1325	43.1		
	Mean	SD	Minimum	Maximum
Age at Release	36.10	10.14	18.26	84.26
Target Incarceration Length (Days)	1672.09	1563.66	34.00	13502
LSI-R Score	25.02	7.39	2.00	48.00
AODA	3.72	2.404	0.00	9.00

[28] Across all models, AODA sub-score only had one level-one effect (TPV reincarceration at Time 2). For this reason, as well as to create a more parsimonious model, AODA sub-score was not used in further analysis as a level-one variable (although these scores are included in the overall LSI-R measure); however, will be considered to test cross-level interactions.

Bivariate Results

Neighborhood-Level Results

The central focus of this study pertains to contextual-level effects on parolee outcomes. Analyses began by examining bivariate relationships for each neighborhood-level predictor variable and each outcome variable (Table 5.5). When examining the correlations of disadvantage and mobility to reincarceration and TPV reincarceration, all correlations were positive; however, only correlations to mobility were significant. Although this finding is in the preliminary stages of analysis, it provides partial support for Hypothesis 1a. Additionally, there were no significant correlations of CPV reincarceration to disadvantage or mobility, indicating initial support for Hypothesis 1b.

Table 5.5.
Correlation Coefficients: Neighborhood-Level Variables.

	1	2	3	4	5	6	7	8	9	10	11
Disadv.	1	-.039*	-.152*	-.105**	-.246**	-.287**	-.065**	-.085**	.007	-.020	.028
Mobility		1	-.001	-.038*	.029	.030	.120**	.058**	.046**	.001	.059**
Total[29]			1	.935***	.489**	.507**	.333**	.288**	.075**	-.022	.118**
EP				1	.328**	.301**	.266**	.230**	.078**	-.019	.119**
MLP					1	.857**	.169**	.250**	-.027	-.026	-.009
Bridging						1	.207**	.220**	-.015	-.009	-.010
GSPs							1	.729**	.051**	-.007	.073**
DOC SPs								1	.014	.002	.016
Reincar.									1	.643**	.647**
CPV										1	-.167**
TPV											1

**p < .01; *p < .05

Both general and TPV reincarceration were positively and significantly correlated to the presence of EP churches (r = .078; r = .119; respectively), whereas bridging churches were not

[29] Indicates the total number of churches within buffered block group.

correlated with any of the outcome measures. Again, though preliminary in nature, these findings refute Hypothesis 2a, in that EP churches elicited an effect, rather than bridging churches, and this effect was positively correlated with parolee reincarceration measures. Additionally, CPV reincarceration was not significantly correlated with any church measures, suggesting CPV reincarceration differs from TPV reincarceration (Hypothesis 2b).

Next, correlations between outcome measures and service provider measures were examined. The GSPs measure was positively and significantly correlated to both total reincarceration (r = .051) and TPV reincarceration (r = .073), indicating that the two measures increase with one another; however, the DOC SPs measure was not significantly correlated to any of the outcome measures. Again, these findings are in the opposite direction as predicted by Hypotheses 3a and 3b. Additionally, CPV reincarceration was not significantly correlated with any of the neighborhood-level measures, suggesting that multi-level modeling may not be appropriate for this measure. The differences in correlations by type of reincarceration suggest preliminary support for Hypotheses 3c, in that CPV and TPV reincarcerations may operate in separate spheres in terms of contextual effects.

Lastly, coefficients among church measures were examined, in which two coefficients showed high, and significant correlations. First, total churches and EP churches were highly correlated (r = .935). When further examined, it was found that EP churches account for approximately 65% of the total number of churches in buffered block groups (65.4%). Because the measure of total churches was dominated by EP churches, the measure of total churches may have been more so measuring the effects of EP churches rather than a mixture of different types of churches. For this reason, the total churches measure was omitted from further analyses. Second, bridging churches were highly correlated with MLP churches (r = .857). Because the

Mainline Protestant church measure appears to be redundant with the bridging church measure, the MLP church measure was removed from additional analyses.

Individual-Level Variables

Bivariate analysis of individual-level variables were examined to test for multicollinearity among parolee attributes (Table 5.6). Length of incarceration for the target offense ("TrgInc") was somewhat correlated to each target offense type (property r = -.131; person/violent r = .355; drug = -.232)[30]. Length of incarceration is tied to the target offense, and therefore, length of incarceration may be a redundant measure of type of target offense. For these reasons, incarceration length was omitted from further analyses. Variance inflation factors (VIFs) were examined for the remaining individual-level variables. All VIF scores for remaining variables were less than 2.000, indicating that multicollinearity was unlikely.

Table 5.6.
Correlation Coefficients: Individual-Level Variables.

	1	2	3	4	5	6	7	8	9	10
Male	1	.110**	-.049**	-.003	-.047**	.007	.048**	.015	.008	.098**
NW		1	-.106**	-.209	-.164	.007	.137**	-.043*	-.044*	.037*
Age			1	-.146**	.085**	.019	-.093**	.100**	.038*	.320**
Single				1	.005	.004	-.009	.033	.036*	-.087**
Prop					1	-.420**	-.465**	.080**	.029	-.131**
Person						1	-.608*	-.014	.164**	.355**
Drug							1	-.056**	-.186**	-.232**
LSI-R								1	.147**	.046*
Center									1	.130**
TrgInc										1

**p < .01; *p < .05

[30] When the number of days spent incarcerated for the target offense was included within multilevel models, no effects were detected.

Multilevel Models for Parolee Outcomes

Several multilevel models were constructed to test the effects of individual- and neighborhood-level variables on each parolee outcome. Because all dependent variables were dichotomous measures, Bernoulli modeling with a logit link function was used to meet the assumption of linearity required by HLM (see Chapter IV for a discussion of models). In accordance with appropriate multilevel model building, null models were created for each dependent variable (Hox, Moerbeek, & van de Schoot, 2010) to allow for the examination of unconditional intra-class correlations (ICC). Due to the binary nature of the dependent variables, Snijders & Bosker (2012) prescribed the use of the following equation to calculate the ICC:

$$\rho_I = \frac{\tau_0^2}{\tau_0^2 + \pi^2/3}$$

The ICC for general reincarceration was 0.047, indicating that 4.7% of the variance among parolee reincarceration was explained by variables at the neighborhood-level. Next, the ICC for TPV reincarceration was examined. Of the variation in TPV reincarcerations, 9.33% of variation was explained at the neighborhood-level. Lastly, the unconditional model for CPV reincarceration was considered. The ICC was 0.001, suggesting that only 0.1% of the variation in CPV reincarceration was explained by variables at the neighborhood-level. Because the unconditional model indicated a small amount of variation at the neighborhood-level, it is not appropriate to include CPV reincarceration as an outcome measure in multilevel models. For this reason, the CPV reincarceration outcome was not examined.

Additionally, the current study is interested in individual-level and contextual effects on parolee outcomes at different times. Unconditional models were examined for general reincarceration and TPV reincarceration for each timeframe. Within the Time 1 model, 21.9%

(ICC = 0.219) of variation within general reincarcerations, and 24.2% (ICC = 0.242) of variation within TPV reincarcerations, was explained by variables at the neighborhood-level. During Time 2, 8.4% (ICC = 0.084) of the variation within general reincarcerations, and 12.4% (ICC = 0.124) of the variation within TPV reincarcerations could be explained by variables at the neighborhood-level. Next, of the variation occurring at Time 3, 1.4% (ICC = 0.014) of variation within general reincarcerations, and 5.2% (ICC = 0.052) within TPV reincarcerations, could be explained by neighborhood-level variables. Lastly only 0.03% (ICC = 0.000) of variation within general reincarcerations, and 0.09% (ICC = 0.0009) of variation within TPV reincarcerations at Time 4, could be explained by neighborhood-level variables. Due to the lack of meaningful level-two variation, Time 4 outcome measures were not further examined.

Lastly, although the parolee AODA subdomain score was not included within models as an individual-level predictor, this variable was used in modeling cross-level interaction terms to determine if churches and service providers have a greater effect on parolees with higher AODA subdomain scores (Hypotheses 2e and 3f). Unfortunately, when the random effects model including AODA was examined, there was no level-two variation, meaning there was no neighborhood effects conditional on the level of AODA to examine at the neighborhood level. Due to the lack of level-two variation, Hypotheses 2e and 3f were rejected, as the effects of neighborhoods do not vary based on AODA score. Consequently, the AODA variable was omitted from further hypotheses testing.

Binomial Logistic Regression Models

To create parsimonious and well-specified models, a series of preliminary binomial logistic regression models were constructed to examine the effect of individual-level predictors

on each outcome measure[31]. Within the first series of models, each one of the nine individual-level variables was included in all reincarceration and TPV reincarceration models. Marital status (i.e., "Single") did not elicit an effect on either outcome measure (Appendix L)[32]. For this reason, as well as in accordance with mixed effects of marital status in the extant literature, the marital status variable was omitted from further analyses. The following section briefly reports the binomial logistic regression findings for the remaining individual-level variables on reincarcerations and TPV reincarcerations (Table 5.7).

Table 5.7.
Binomial Logistic Regression: Individual-Level Variables on Parolee Outcomes.

	Reincarceration b (s.e.)	TPV Reincarceration b (s.e.)
Intercept	-0.989***	-1.921***
	(.050)	(.069)
Male	.105	-.253
	(.200)	(.265)
Non-White	-.372**	-.423*
	(.130)	(.191)
Age	-.024***	-.006
	(.004)	(.005)
Person	-.056	.171
	(.100)	(.129)
Drug	-.200*	-.231†
	(.101)	(.134)
LSI-R	.034***	.034***
	(.006)	(.007)
CCC/CCF	.093	.139
	(.096)	(.135)

***< .001; ** < .01; *< .05; †< .10

[31] In regards to type of target offense, property/nonviolent offense was set as the reference category.
[32] Additionally, this model did not have an effect on parolee outcomes by time.

Three variables significantly decrease the odds of parolee reincarceration or TPV reincarceration. Identifying as non-White significantly decreased the odds of both reincarceration and TPV reincarceration. Additionally, increased age was found to significantly decrease the odds of general reincarceration. Parolees who had a drug-related target offense significantly decreased odds of reincarceration and TPV reincarceration, although only marginally significant in the TPV reincarceration model. Lastly, LSI-R score increased the odds of both outcomes.

Multilevel Model Results

Effects of Disadvantage and mobility on parolee outcomes. To test the first set of hypotheses (Hypothesis 1a and 1b) the effects of disadvantage and mobility on general reincarceration (Table 5.8; Model 1) and TPV reincarceration (Table 5.9; Model 1) were assessed using a multilevel design. When examining predictors of general reincarceration, the effects of disadvantage and mobility were in the expected direction, although not significant. The lack of significant neighborhood effects on reincarceration resulted in the rejection of Hypothesis 1a. Although there were no significant level-two effects, four individual-level characteristics were identified as significant predictors of parolee reincarceration. Parolee LSI-R score and age remained significant predictors of parolee odds of reincarceration. Additionally, non-White parolees had odds of reincarceration that were 30% lower than parolees who identified as White [.30 = 1-(exp(-.355)], and parolees with a drug target offense had odds 18.5% lower compared to other offenses.

Table 5.8
Multilevel Model: Disadvantage, Mobility, and Churches on General Reincarceration.

	Model 1 b (s.e.)	Model 2 b (s.e.)	Model 3 b (s.e.)
Intercept	-.991***	-1.001***	-0.992***
	(.049)	(.048)	(.049)
Level-2			
Disadvantage	.008	.012	-.025
	(.049)	(.062)	(.068)
Mobility	.067	.077	.071
	(.050)	(.049)	(.050)
EP	-----	.048*	-----
		(.019)	
EP xDis	-----	.003	-----
		(.015)	
BRG	-----	-----	-.019
			(.049)
BRG xDis	-----	-----	.032
			(.053)
Level-1			
LSI-R	.034***	.033***	.034***
	(.006)	(.006)	(.006)
Age	-.024***	-.024***	-.024***
	(.004)	(.004)	(.004)
Male	.091	.102	.090
	(.200)	(.200)	(.201)
Person	-.054	-.040	-.055
	(.101)	(.101)	(.101)
Drug	-.203*	-.192†	-.203*
	(.102)	(.103)	(.102)
Non-White	-.355**	-.378**	-.358**
	(.131)	(.123)	(.131)
Center	.089	.084	.087
	(.095)	(.094)	(.095)

***p < .001; **p < .01; *p < .05; †p < .10

Next, Hypothesis 1b was tested by examining the effects of neighborhood disadvantage and mobility on the odds of TPV reincarceration (Table 5.10; Model 1). Disadvantage did not elicit an effect; however, mobility had a positive, although only marginally significant, effect on TPV reincarceration. Parolees residing in extremely mobile neighborhoods (i.e., neighborhoods

scoring one standard deviation or higher than the mean score of mobility) had odds of TPV reincarceration 1.134 times greater than those in less mobile neighborhoods. This finding partially affirmed Hypothesis 1b, in that TPV reincarceration is more sensitive to mobility.

Similar to the general reincarceration model, increased LSI-R score was a predictor of TPV reincarceration. For each one point increase above the mean LSI-R score, the odds of TPV reincarceration increased 3.5%. Additionally, non-White parolees benefited from a 33% decrease in the odds of TPV reincarceration when compared to White parolees.

Effects of churches on parolee outcomes. The second set of hypotheses purport that parolees living in block groups with more churches will have lower odds of reincarceration. Specifically, it is suggested that this effect will be stronger for bridging churches (Hypothesis 2a), and for TPV reincarcerations (Hypothesis 2b). It is also hypothesized that the effect of churches will be conditioned by the level of neighborhood disadvantage (Hypothesis 2c).

When examining multilevel models, it was found that increased numbers of EP churches within a neighborhood increased the odds of both reincarceration (Table 5.8, Model 2) and TPV reincarceration (Table 5.9; Model 2). For each additional EP church above the mean number of EP churches per buffered block group[33], the odds of reincarceration increased by 4.9%. The inclusion of EP churches within this model dampened the effect of having a drug target offense to a level of marginal significance; however, no other level-two or level-one effects were impacted by the addition of the EP church measure.

The positive effect of EP churches on the odds of reincarceration was even stronger for parolees reincarcerated as the result of a TPV. For each additional EP church per buffered block

[33] All independent variables were grand mean centered. For this reason, interpretation assumes each one unit increase in the independent variable is a one unit increase above the mean score of that specific variable.

group, the odds of TPV reincarceration increased 9.9%. Within this model, the effect of mobility on TPV reincarcerations was slightly strengthened; however, no other variables were affected by the inclusion of the EP church variable. Within both models, the effects of EP churches on general reincarceration were not moderated by the level of neighborhood disadvantage.

Next, the effects of the number of bridging churches within buffered block groups on reincarceration (Table 5.8; Model 3) and TPV reincarceration (Table 5.9; Model 3) were examined. Bridging churches, as well as their interaction terms with disadvantage, failed to affect the odds of parolee reincarceration and TPV reincarceration. It should be noted that the inclusion of the bridging churches measure did not impact the effects of any neighborhood-level or individual-level variables on the outcome measures. These findings refute Hypothesis 2a, in that although bridging churches do not have an effect on parolee outcomes, EP churches do have a strong and positive effect. Although the positive effect of EP churches on general and TPV reincarceration was unexpected, and perhaps contrary to intuitive reasoning, these results align with some findings on general crime rates (Desmond et al., 2010; Triplett et al., 2013). Additionally, the stronger effects of EP churches on the odds of TPV reincarcerations affirms Hypothesis 2b. Finally, these findings lead to the rejection of Hypotheses 2c, as the effect of church measures on parolee outcomes were not moderated by the level of neighborhood disadvantage.

Table 5.9
Multilevel Model: Disadvantage, Mobility, and Churches on TPV Reincarceration.

	Model 1 b (s.e.)	Model 2 b (s.e.)	Model 3 b (s.e.)
Intercept	-1.934***	-1.968***	-1.936***
	(.067)	(.061)	(.066)
Level-2			
Disadvantage	.082	.070	.148†
	(.065)	(.086)	(.086)
Mobility	.125†	.147*	.118†
	(.069)	(.069)	(.070)
EP	---	.095***	---
		(.027)	
EP	---	.014	---
xDis		(.025)	
BRG	---	---	.023
			(.072)
BRG	---	---	-.065
xDis			(.073)
Level-1			
LSI-R	.034***	.033***	.034***
	(.007)	(.007)	(.006)
Age	-.006	-.007	-.006
	(.005)	(.005)	(.005)
Male	-.274	-.254	-.270
	(.264)	(.265)	(.260)
Person	.174	.202	.175
	(.128)	(.126)	(.129)
Drug	-.243†	-.222†	-.244†
	(.135)	(.133)	(.136)
Non-White	-.394*	-.445*	-.390*
	(.190)	(.189)	(.190)
Center	.127	.120	.129
	(.134)	(.131)	(.133)

***p < .001; **p < .01; *p < .05; †p < .10

Effects of disadvantage, mobility, and churches on parolee outcomes by time.

Hypothesis 1c posits that the effects of neighborhood disadvantage and mobility on parolee outcomes will vary across time. First, this hypothesis was tested for the general reincarceration measure. Similar to the effects of disadvantage and mobility on reincarceration occurring at any point within the study period, these constructs did not have an effect on parolee reincarceration at

Time 1 or Time 2 (Table 5.10), although, at Time 3, mobility had a positive and significant effect on reincarceration. Specifically, for each one unit (i.e., standard deviation) increase in the mobility factor score, the odds of reincarceration for parolees living within that neighborhood increased by 14.8%.

Table 5.10.
Multilevel Model: Disadvantage and Mobility on Parolee Outcomes by Time.

	Reincarceration			TPV Reincarceration		
	Time 1	Time 2	Time 3	Time 1	Time 2	Time 3
	b	b	b	b	b	b
	(s.e.)	(s.e.)	(s.e.)	(s.e.)	(s.e.)	(s.e.)
Intercept	-4.063***	-3.184***	-1.932***	-4.294***	-3.637***	-2.737***
	(.145)	(.094)	(.054)	(.158)	(.118)	(.077)
Level-2						
Disadvantage	-.049	.124	-.047	-.040	.221*	-.017
	(.119)	(.097)	(.052)	(.134)	(.111)	(.070)
Mobility	.188	-.032	.138**	.204	-.059	.173*
	(.129)	(.131)	(.052)	(.140)	(.189)	(.073)
Level-1						
LSI-R	.020†	.033***	.032***	.037**	.033**	.036***
	(.011)	(.010)	(.008)	(.011)	(.010)	(.010)
Age	-.027*	.005	-.018**	-.020	-.013†	-.004**
	(.013)	(.008)	(.005)	(.013)	(.007)	(.007)
Male	-.793*	.295	.045	-.886*	.121	-.477†
	(.343)	(.408)	(.233)	(.362)	(.430)	(.252)
Person	-.699**	-.122	-.042	-.603*	.166	.193
	(.252)	(.199)	(.136)	(.272)	(.218)	(.164)
Drug	-.799**	-.403†	-.188	-.552**	-.457†	-.197
	(.230)	(.227)	(.131)	(.212)	(.253)	(.179)
Non-White	-.611*	-.196	-.247	-.641*	-.009	-.350
	(.281)	(.326)	(.183)	(.277)	(.346)	(.233)
Center	-.241	.015	.159	-.256	.284	.150
	(.286)	(.210)	(.122)	(.322)	(.246)	(.150)

$^{***}p < .001$; $^{**}p < .01$; $^{*}p < .05$; $^{\dagger}p < .10$

Next, the effects of neighborhood disadvantage and mobility on TPV reincarceration by time were considered. Similar to the general reincarceration model, neither disadvantage nor mobility had a significant effect on TPV reincarceration at Time 1; however, at Time 2, disadvantage had positive and significant effect on TPV reincarceration. For every one unit increase in the score of disadvantage, the odds of parolee TPV reincarceration increased by

24.8%. Lastly, at Time 3, mobility had a positive, and significant effect on the odds of TPV reincarceration, in which for every one unit increase in the score of mobility, the odds of TPV reincarceration increased by 19.0%.

Recall, when reincarceration taking place at any point within the study period was examined, neither disadvantage nor mobility had an effect on the odds of reincarceration; however, when the effects of disadvantage and mobility were delineated by time, mobility was found to have a strong effect during Time 3. In regards to TPV reincarceration, the overall model showed only one marginally significant effect, which was the positive effect of mobility on TPV reincarcerations. When the time at which TPV reincarceration occurred was examined, both disadvantage and mobility were found to increase the odds of parolee TPV reincarceration. The stronger effects on TPV reincarceration offers support for Hypothesis 1b, in that the TPV reincarceration model was more receptive to disadvantage and mobility, when compared to general reincarceration. Additionally, Hypothesis 1c is supported, as the effects of disadvantage and mobility varied across time, with the stronger effects being in the latter two timeframes.

Additionally, the effects of churches on parolee outcomes were hypothesized to vary across time (Hypotheses 2d). EP churches elicited a positive effect on reincarceration across time periods, achieving at least marginal significance in timeframe; however, the effect was strongest at Time 2[34] (Table 5.11; Models 1, 3, 5). During Time 2, each additional EP church within buffered block groups increased the odds of parolee reincarceration by 9.0%. Across all general reincarceration models, the effects of EP churches were not moderated by disadvantage, suggesting that the effects of EP churches on reincarceration exist regardless of the neighborhood's socioeconomic standing.

[34] EP churches had a positive and marginally significant effect on general reincarceration at Time 1 and Time 3.

Table 5.11.
Multilevel Model: Disadvantage, Mobility, and Churches on Reincarceration by Time.

	Time 1		Time 2		Time 3	
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
	b	b	b	b	b	b
	(s.e.)	(s.e.)	(s.e.)	(s.e.)	(s.e.)	(s.e.)
Intercept	-4.109***	-4.076***	-3.228***	-3.188***	-1.942***	-1.933***
	(.130)	(.141)	(.093)	(.094)	(.055)	(.054)
Level-2						
Disadvantage.	-.063	.054	.151	.172	-.056	-.104
	(.154)	(.153)	(.145)	(.131)	(.067)	(.071)
Mobility	.196	.171	-.026	-.037	.143**	.144**
	(.134)	(.131)	(.030)	(.101)	(.052)	(.052)
EP	.084†	---	.086**	---	.028†	---
	(.046)		(.030)		(.016)	
EP	.012	---	.002	---	.007	---
xDis	(.040)		(.028)		(.013)	
Bridging	---	-.110	---	.071	---	-.056
		(.136)		(.090)		(.056)
Bridging	---	.152	---	-.031	---	.048
xDis		(.103)		(.099)		(.057)
Level-1						
LSI-R	.018	.020†	.032***	.033***	.032***	.033***
	(.011)	(.011)	(.005)	(.009)	(.008)	(.008)
Age	-.027*	-.027*	.005	.005	-.018**	-.018**
	(.013)	(.013)	(.008)	(.008)	(.005)	(.005)
Male	-.769*	-.779*	.321	.295	.059	.044
	(.345)	(.342)	(.409)	(.404)	(.229)	(.234)
Person	-.679**	-.701**	-.092	-.117	-.028	-.047
	(.251)	(.250)	(.201)	(.199)	(.139)	(.136)
Drug	-.784**	-.802***	-.380†	-.400†	-.175	-.190
	(.235)	(.229)	(.228)	(.226)	(.132)	(.131)
Non-White	-.647*	-.612*	-.239	-.188	-.263	-.255
	(.276)	(.278)	(.332)	(.325)	(.184)	(.184)
Center	-.269	.241	-.004	.016	.150	.156
	(.276)	(.283)	(.207)	(.210)	(.122)	(.122)

***p < .001; **p < .01; *p < .05; †p < .10

Following this, the effects of EP churches on TPV reincarcerations by time were examined (Table 5.12; Models 1, 3, 5). The number of EP churches within a neighborhood significantly increased the odds of TPV reincarceration during each timeframe, with the strongest relationship being during Time 3. The greatest effect on parolee odds took place at

Time 2, when the odds of TPV reincarceration increased by 10.0% for each additional EP church within the neighborhood. Additionally, once EP churches were included within the model, the negative and direct effect of disadvantage on TPV reincarceration was no longer significant.

Table 5.12.
Multilevel Model: Disadvantage, Mobility, and Churches on TPV Reincarceration by Time.

	Time 1		Time 2		Time 3	
	Model 1 b (s.e.)	Model 2 b (s.e.)	Model 3 b (s.e.)	Model 4 b (s.e.)	Model 5 b (s.e.)	Model 6 b (s.e.)
Intercept	-4.354***	-4.307***	-3.692***	-3.637***	-2.783***	-2.742***
	(.138)	(.153)	(.108)	(.117)	(.080)	(.076)
Level-2						
Disadvantage.	-.102	.045	.176	.216	.019	.063
	(.170)	(.176)	(.157)	(.136)	(.099)	(.097)
Mobility	.218	.189	-.052	-.060	.189*	.171*
	(.145)	(.141)	(.117)	(.117)	(.076)	(.074)
EP	.096*	---	.095*	---	.091***	---
	(.046)		(.046)		(.021)	
EP xDis	.027	---	.024	---	.008	---
	(.040)		(.039)		(.018)	
Bridging	---	-.137	---	-.018	---	.074
		(.151)		(.109)		(.080)
Bridging xDis	---	-.143	---	.001	---	-.026
		(.119)		(.117)		(.077)
Level-1						
LSI-R	.036**	.037**	.031**	.033***	.035***	.036***
	(.012)	(.011)	(.010)	(.010)	(.010)	(.010)
Age	-.020	-.020	.012†	.013†	-.005	-.004
	(.013)	(.014)	(.007)	(.007)	(.007)	(.007)
Male	-.853*	-.870*	.173	.124	-.442†	-.477†
	(.362)	(.360)	(.437)	(.425)	(.256)	(.251)
Person	-.583*	-.606*	.206	.166	.232	.198
	(.269)	(.271)	(.218)	(.218)	(.167)	(.165)
Drug	-.531**	-.553**	-.417†	-.457†	-.163	-.195
	(.215)	(.212)	(.253)	(.252)	(.181)	(.179)
Non-White	-.681*	-.644*	-.162	-.101	-.400†	-.342
	(.270)	(.272)	(.354)	(.348)	(.237)	(.235)
Center	.289	-.258	.273	.282	.135	.152
	(.310)	(.319)	(.243)	(.245)	(.153)	(.150)

***p < .001; **p < .01; *p < .05; †p < .10

Next, the effect of bridging churches on the odds of general reincarceration (Table 5.11; Models 2, 4, 6) and TPV reincarceration (Table 5.12; Models 2, 4, 6) by time were examined. Although coefficients were negative for two out of the three time periods, there were no significant effects of bridging churches on any of the parolee outcomes. Likewise, none of the interaction terms produced significant effects.

Similar to the findings on general and TPV reincarcerations occurring at any point during the study period, the effect of EP churches on dependent variables are in the opposite direction than hypothesized. EP churches were associated with increased odds of both reincarceration and TPV reincarceration, whereas bridging churches failed to elicit a significant effect in any of the models.

These findings lend further support for Hypothesis 2b, in that EP churches had a greater effect on TPV reincarceration; however, this effect was in the unexpected direction. Additionally, the effects of EP churches existed regardless of the level of neighborhood disadvantage, resulting in the rejection of Hypothesis 2c. Lastly, the effects of EP churches remained consistent across TPV reincarceration models, whereas these effects varied across general reincarceration. The variation in the effects of EP churches in general reincarceration models offers partial support for Hypothesis 2d.

Effects of service providers on parolee outcomes. The third set of hypotheses were concerned with the effects of service providers on parolee outcomes. The first hypothesis posits that parolees living in neighborhoods with a greater number of service providers will have lower odds of reincarceration and TPV reincarceration (Hypothesis 3a). Furthermore, it is hypothesized that this negative effect will be stringer when examining DOC SPs, as information on these service providers are disseminated to parolee prior to release (Hypothesis 3b). Additionally, it is

hypothesized that the reduction in the odds of TPV reincarcerations in neighborhoods with more service providers will be greater than reductions in general reincarcerations (Hypothesis 3c). Lastly, it was posited that the effects of service provider on parolee outcomes would be moderated by the level of neighborhood disadvantage (Hypothesis 3d).

The effect of GSPs on general reincarceration was positive, although marginally significant (Table 5.13; Model 1). Specifically, for each additional service provider within a buffered block group, the odds of reincarceration increased by 3.7%. The positive effect of GSPs on TPV reincarceration was stronger, and reached significance (Model 3). For each additional service provider, the odds of TPV reincarceration increased by 5.6%. In both models, the effects of GSPs on parolee outcomes were not moderated by the level of neighborhood disadvantage.

Next, the effects of DOC referred service providers on parolee outcome measures were examined. Although the main effect of DOC SPs failed to elicit an effect on the odds of parolee reincarceration and TPV reincarceration (Table 5.13; Model 2; Model 4), the DOC SPs were found to decrease the odds of TPV reincarceration in more disadvantaged neighborhoods (Model 4). In extremely disadvantaged neighborhoods (i.e., block groups scoring one standard deviation or greater above the mean score of disadvantage), for each additional DOC SP above the mean, the odds of parolee TPV reincarceration was reduced by 10.1%. Additionally, within TPV models, the effect of disadvantage on TPV was strengthened once interaction terms were included within the models, showing suppression effects. In both models, the inclusion of the DOC SPs variable did not influence individual-level effects.

Table 5.13
Multilevel Model: Disadvantage, Mobility, and Service Providers on Reincarceration and TPV Reincarceration.

	General Reincarceration		TPV Reincarceration	
	Model 1	Model 2	Model 3	Model 4
	b	b	b	b
	(s.e.)	(s.e.)	(s.e.)	(s.e.)
Intercept	-.997	-.995	-1.949***	-1.943***
	(.049)	(.049)	(.066)	(.066)
Level-2				
Disadvantage	.002	.050	.128†	.164*
	(.059)	(.058)	(.077)	(.076)
Mobility	.062	.050	.095	.087
	(.052)	(.052)	(.071)	(.069)
GSPs	.036†	---	.054*	---
	(.019)		(.025)	
GSPs xDis	.005	---	-.016	---
	(.013)		(.017)	
DOC SPs	---	-.001	---	-.020
		(.030)		(.037)
DOC SPs xDis	---	-.045	---	-.087*
		(.034)		(.034)
Level-1				
LSI-R	.033***	.034***	.034***	.034***
	(.006)	(.006)	(.007)	(.007)
Age	-.024***	-.024***	-.007	-.006
	(.004)	(.004)	(.005)	(.005)
Male	.085	.095	-.284	-.266
	(.202)	(.197)	(.263)	(.257)
Person	-.057	-.058	.166	.167
	(.100)	(.100)	(.128)	(.128)
Drug	-.203*	-.203*	-.243†	-.240†
	(.102)	(.103)	(.135)	(.135)
Non-White	-.345**	-.351**	-.366†	-.395*
	(.133)	(.133)	(.190)	(.192)
Center	.082	.087	.115	.126
	(.095)	(.095)	(.134)	(.135)

***p < .001; **p < .01; *p < .05; †p < .10

These findings suggest that service providers did in fact have an influence on parolee outcomes; however, direct effects were limited to GSPs and this was a positive effect. The findings on GSPs and DOC SPs on parolee outcomes result in the initial rejection of Hypotheses 3a and 3b. On the other hand, the effects of DOC SPs differed from GSPs, in which they only

had an effect on TPV reincarceration and only when disadvantage was above the mean (Hypothesis 3c and 3d).

The effects of service providers on parolee outcomes by time. Service providers were hypothesized to have greater effects on the odds of reincarceration after a longer amount of time had passed following release (Hypothesis 3e). When examining the effects of both service providers measures on general reincarceration, two effects emerged, both of which were during Time 1 (Table 5.14). First, during this time, each additional GSP per buffered block group was associated with a 17.6% increase in the odds of reincarceration (Model 1). Again, the level of neighborhood disadvantage did not influence the effect of GSPs on the odds of parolee reincarceration.

Second, DOC SPs had an effect on the odds of parolee reincarceration at Time 1 (Model 2). When considering this effect, DOC SPs differ from GSPs, in that the effect of DOC SPs on reincarceration is negative and conditional on the level of neighborhood disadvantage. For each additional DOC SP above the mean number of DOC SPs, located within extremely disadvantaged neighborhoods, parolees benefited from an 8.0% decrease in the odds of reincarceration. Across all three models by time, the introduction of the DOC SPs variable and the DOC SPs-Disadvantage interaction term did not impact the effects of individual-level variables.

Table 5.14.
Multilevel Model: Disadvantage, Mobility, and Service Providers on Reincarceration by Time.

	Time 1		Time 2		Time 3	
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
	b	b	b	b	b	b
	(s.e.)	(s.e.)	(s.e.)	(s.e.)	(s.e.)	(s.e.)
Intercept	-4.178***	-4.128***	-3.193***	-3.189***	-1.934***	-1.933***
	(.152)	(.158)	(.095)	(.094)	(.054)	(.054)
Level-2						
Disadvantage	.047	.171	.041	.135	-.053	-.027
	(.116)	(.114)	(.135)	(.111)	(.061)	(.061)
Mobility	.064	.030	-.023	-.036	.139*	.130*
	(.111)	(.106)	(.107)	(.103)	(.055)	(.056)
GSPs	.162***	---	.035	---	.008	---
	(.043)		(.031)		(.020)	
GSPs	-.006	---	.046	---	.004	---
xDis	(.029)		(.038)		(.014)	
DOC SPs	---	.050	---	.029	---	-.034
		(.110)		(.042)		(.027)
DOC SPs	---	-.133*	---	-.007	---	-.026
xDis		(.061)		(.052)		(.031)
Level-1						
LSI-R	.020†	.020†	.033**	.033***	.032***	.033***
	(.012)	(.012)	(.010)	(.010)	(.008)	(.008)
Age	-.031*	-.030*	.005	.005	-.018**	-.018**
	(.014)	(.015)	(.008)	(.008)	(.004)	(.005)
Male	-.841*	-.778*	.327	.293	.043	.050
	(.347)	(.339	(.417)	(.405)	(.233)	(.230)
Person	-.841**	-.759**	-.121	-.123	-.042	-.043
	(.347)	(.240)	(.199)	(.199)	(.136)	(.135)
Drug	-.766**	-.822**	-.402†	-.405†	-.188	-.183
	(.249)	(.239)	(.225)	(.225)	(.131)	(.131)
Non-White	-.575*	-.589*	-.221	-.184	-.246	-.256
	(.281)	(.282)	(.339)	(.326)	(.185)	(.183)
Center	-.290	-.261	.008	.009	.156	.163
	(.291)	(.300)	(.209)	(.210)	(.122)	(.122)

***p < .001; **p < .01; *p < .05; †p < .10

Service providers effected TPV- reincarcerations across time (Table 5.15). During Time 1, each additional GSPs within a buffered block group increased the odds of TPV reincarceration by 19.2%, compared to those in areas with one fewer GSP (Model 1). Also during Time 1, the DOC SPs-Disadvantage interaction term elicited a negative effect on the odds of TPV

reincarceration (Model 2)[35]. Specifically, in extremely disadvantaged neighborhoods, each additional service provider was associated with 5.7% reduction in the odds of TPV reincarceration.

Table 5.15.
Multilevel Model: Disadvantage, Mobility, and Service Providers on TPV Reincarceration by Time.

	Time 1		Time 2		Time 3	
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
	b	b	b	b	b	b
	(s.e.)	(s.e.)	(s.e.)	(s.e.)	(s.e.)	(s.e.)
Intercept	-4.440***	-4.380***	-3.649***	-3.644***	-2.743***	-2.742***
	(.170)	(.179)	(.115)	(.116)	(.077)	(.077)
Level-2						
Disadvantage	.089	.214	.136	.268*	.067	.072
	(.133)	(.133)	(.138)	(.117)	(.084)	(.082)
Mobility	.058	.017	-.052	-.072	.152†	.149*
	(.116)	(.108)	(.123)	(.116)	(.079)	(.079)
GSPs	.176***	---	.042	---	.010	---
	(.047)		(.040)		(.029)	
GSPs	-.009	---	.046	---	-.020	---
xDis	(.032)		(.047)		(.019)	
DOC SPs	---	.078	---	-.073	---	-.054
		(.115)		(.072)		(.038)
DOC SPs	---	-.137*	---	-.066	---	-.062*
xDis		(.065)		(.060)		(.031)
Level-1						
LSI-R	.038**	.038**	.032**	.033**	.036***	.036***
	(.012)	(.012)	(.010)	(.010)	(.010)	(.010)
Age	-.024	-.023	.012†	.013†	-.005	-.004
	(.015)	(.015)	(.007)	(.007)	(.007)	(.007)
Male	-.948*	-.872*	.094	.147	-.478†	-.465†
	(.368)	(.359)	(.440)	(.424)	(.250)	(.248)
Person	-.695*	-.685**	.167	.164	.186	.187
	(.272)	(.259)	(.217)	(.220)	(.165)	(.164)
Drug	-.577**	-.579**	-.457†	-.446†	-.198	-.189
	(.219)	(.223)	(.251)	(.251)	(.179)	(.178)
Non-White	-.602*	-.610*	-.119	-.121	-.326	-.361
	(.275)	(.275)	(.363)	(.355)	(.235)	(.236)
Center	.307	-.279	.275	.289	.142	.153
	(.342)	(.345)	(.243)	(.247)	(.149)	(.151)

***p < .001; **p < .01; *p < .05; †p < .10

[35] When the direct effect of DOC SPs was examined it was found to have a had a positive effect on the odds of TPV reincarceration, with each additional DOC SP increasing the odds of TPV reincarceration by 17.1%. This effect was no longer significant with the inclusion of the DOC SP-Disadvantage interaction term within the model.

Lastly, while DOC SPs did not have a direct effect on the odds of TPV reincarceration at Time 3, the interaction term elicited a significant and negative effect (Model 6). The effect at Time 3 was stronger than at Time 1, in which it was found that parolees residing in extremely disadvantaged block groups benefited from a 10.6% reduction in the odds of TPV reincarceration at Time 3 for each additional DOC SPs located within the buffered block group.

These findings provide further support for Hypothesis 3b, in that the effects of GSPs and DOC SPs on outcome variables differ. Additionally, the effects of service providers are stronger within the TPV reincarceration model (Hypothesis 3c). DOC SPs were found to be especially effective at decreasing the odds of TPV reincarceration within neighborhoods that were extremely disadvantaged (Hypothesis 3d). Lastly, the hypothesis that the effects of service providers vary across time (Hypothesis 3e) is partially confirmed. Although both types of service providers had an effect on both parolee outcomes at Time 1, the DOC SP-Disadvantage interaction term was found to only have an effect on the odds of TPV reincarceration during Time 3. Moreover, the effect of DOC SPs in disadvantage neighborhoods on TPV reincarceration during Time 3 were more than twice as great as the effect during Time 1. Additionally, no effects were detected at Time 2, showing further variation of the effects of service providers on parolee outcomes across time.

Time and Individual-Level Variables. Individual-level variables were included in models to combat the creation of misspecified models. Although not a primary area of interest to the current study, an interesting finding emerged regarding the effects of level-one variables across time. In the same way the effects of neighborhood disadvantage and mobility changed over time, with stronger effects in the later stages following parolee release, the effects of individual-level predictors on reincarceration varied and were dampened with the passage of time (Table 5.10).

At Time 1, increased age, being male, having a person/violent target offense, having a drug target offense, and identifying as a non-White race decreased the odds of reincarceration, whereas LSI-R score increased odds of reincarceration[36]. By the end of the first year following release (i.e., Time 2), nearly all individual-level predictors failed to elicit a significant effect on parolee reincarceration, with the exception of LSI-R score. At Time 3, LSI-R score remained a significant predictor of reincarceration, as well as the reintroduction of parolee age as having an effect on reincarceration.

Similarly, being a male, having a person/violent target offense, having a drug target offense, and identifying as a non-White race was associated with decreased odds of TPV reincarceration at Time 1, whereas LSI-R elicited a positive effect. At Time 2, LSI-R score maintained a predictor of increased odds of TPV reincarceration. Both having a drug target offense and increased age had negative, although marginally significant effects on TPV reincarceration. Finally, by Time 3, being a male had a marginally significant, negative effect on TPV reincarceration; however, LSI-R score was the only significant predictor of TPV reincarceration.

The findings from the current study indicate that although individual-level attributes of parolees are most likely to predict parolees' odds of reincarceration immediately following their releases, these effects fade over time. Additionally, some support was found in regards to the effects of neighborhood context on parolee outcomes. Findings suggest that neighborhood context has a greater effect on TPV reincarcerations. Also, the effects of neighborhood institutions on parolee outcomes were found to be contingent on the category of church (i.e., EP versus Bridging) and service provider (i.e., GSPs versus DOC SPs), as well as be strengthened

[36] LSI-R score was found to have a marginally significant effect on the odds of general reincarceration occurring at any point throughout the study period.

with the passage of time. The following chapter discusses these findings, as well as provides arguments regarding why these findings may have emerged.

CHAPTER VI: DISCUSSION AND CONCLUSION

With nearly 2.2 million incarcerated individuals in the United States (Kaeble, Glaze, Tsoutis, & Minton, 2016), it is not difficult to realize the monumental costs associated with housing inmates. To be exact, correctional agency and services expenditures surmount 74 billion dollars in annual spending (Schmidt, Warner, & Gupta, 2010). Of the nearly 800,000 individuals under parole supervision in the U.S. (Glaze & Bonczar, 2010), approximately two-thirds of these individuals will be reincarcerated within three years following their releases (Durose et al., 2014). With such a great number of parolees returning to terms of incarceration, as well as the sizable price tag attached with housing these individuals, it is critical to identify factors and environments conducive to increasing the likelihood of successful reentry.

Although researchers have identified that a disproportionate number of parolees congregate in a small number of disadvantaged residential areas (Harding et al., 2012; Kubrin & Stewart, 2006; Solomon et al., 2004), our understanding of the effects of neighborhood context on parolee outcomes remains limited. Specifically, prior analyses have failed to consider the potential for the effects of neighborhood context on parolee outcomes to vary based on the behavior resulting in reincarceration (i.e., TPV versus CPV) or the possibility of different effects dependent on the length of time the parolee has been under community supervision. Moreover, the examination of non-economic institutions on parolee outcomes remains undeveloped.

The primary purpose of this study was to fill these voids in the literature by identifying the effects of neighborhood context, churches, and service providers on parolee outcomes, as well as how these effects differed across reincarceration type and time. Detection of such neighborhood attributes may yield benefits not only to parolees, but also to the community at large. The current chapter provides a summary of these findings, with a brief review of how each finding refutes or supports the theoretical framework and the extant literature. Next, limitations

of the current study, as well as prospective remedies for each limitation and avenues of future research are reviewed. Lastly, potential policy implications stemming from these findings are presented.

Summary of Findings

In general, previous examination of neighborhood-level characteristics have been limited to crime, and have rarely been applied to other behaviors, such as parolee outcomes. The current study aims to fill this gap in the literature by extending social disorganization theory to parolee outcomes. In light of social disorganization theory, one would expect that parolees residing in neighborhoods identified to have higher levels of socioeconomic disadvantage and residential mobility would be more likely to be reincarcerated, when compared to those residing in more affluent and stable neighborhoods. Additionally, local institutions have been argued to attenuate the effects of disadvantage and mobility through the socialization of resident to conventional value systems, consequently leading to increased levels of informal social control (Kornhauser, 1978). Moreover, the effects of institutions are argued to be most fruitful in disadvantaged neighborhoods, which often experience social and resource isolation (Wilson, 1987). Along the lines of this argument, coupled with the ability of local institutions to distribute various forms of social capital amongst residents, it was hypothesized that parolees residing in neighborhoods with more service providers and bridging churches would have lower odds of reincarceration.

As reviewed in Chapters III and IV, parolee reincarceration is the consequence of either the conviction of a new offense (i.e., CPV) or failing to maintain conditions of release (i.e., TPV). This study postulated that there are principal differences between parolees who are reincarcerated as the result of a CPV versus those who are reincarcerated as the result of a TPV. Recall, conditions of parole are restrictions placed on parolees, which operate independently

from criminal law. Such conditions are widespread, with the average parolee in the United States being required to adhere to 19 conditions of parole (Travis & Stacey, 2010). Parole conditions may restrict parolee behaviors such as staying out past a designated time (i.e., curfew), consuming alcohol, conversing or associating with specific people (e.g., gang members, known offenders, previous victims), and may also require them to engage in certain activities such as pursuing/obtaining gainful employment. Failure in regard to these conditions has the potential to result in the reincarceration of a parolee, although they would not result in the incarceration of an adult who is not under community supervision.

TPVs are less serious infractions, and for this reason, neighborhood informal social control may be more effective in addressing behaviors related to parole conditions versus criminal offenses. Through the assertion of informal social control and the deployment of resources, neighborhood institutions and residents of socially organized neighborhoods may be able to recognize and correct behaviors associated with parole condition infractions, rather than rely on and enact agents of formal control (e.g., police officers). Conversely, in cases where a new offense has been committed, neighborhood actors may be more inclined to reach out to formal control agents, such as police officers, which in turn may result in the apprehension and reincarceration of parolees. For these reasons, it was hypothesized that the benefits of neighborhood context and institutions would be greater for TPVs. To test this, the current study included additional modeling to consider these effects on only those parolees who were reincarcerated as the result of TPVs.

It was also hypothesized that the effects of neighborhood context on parolee outcomes would vary dependent on the length of time that had elapsed from release to parolee reincarceration. For this reason, the length of time between release from prison and parolee

failure was categorized into one of four timeframes: zero to six months (Time 1), six months to one year (Time 2), one year to two years (Time 3), and two years to three years (Time 4)[37]. The disaggregation of parolee failure by time allowed for the examination of how neighborhood-level and individual-level effects changed across time.

In order to test each of these hypotheses, several multilevel models were conducted and examined. Based on results from analyses, parolee outcomes were to some extent effected by neighborhood context and institutions (i.e., Evangelical Protestant churches, service providers). Also, neighborhood-level and individual-level effects varied based on the reason for reincarceration, and the amount of time that passed between release and parolee reincarceration. The main findings from this study are five-fold, and are discussed below.

The first key findings pertain to the disaggregation of reasons for parolee reincarceration. First, there are many similarities between the TPV reincarceration and general reincarceration models, particularly with regard to the role of disadvantage, churches, and general service providers. However, some neighborhood-level characteristics did have more significant effects on TPV reincarcerations, compared effect on the overarching measure of general reincarceration. In general, the number of effects, as well as the strength of effects were stronger on TPV reincarcerations, indicating that technical parole violators may be more affected by their neighborhood context. These findings offer support for the notion that neighborhood-level informal social control may be more relevant when considering deviant behaviors (e.g., technical parole violations) versus new offenses committed by parolees. Whereas neighborhood residents may be quicker to activate mechanisms of formal social control for instances of a criminal

[37] Recall, Time 4 was not used in multilevel models, due to the ICC indicating that less than 1% of variation in each outcome was explained by level-two variables.

offense, they may be more likely to use informal mechanisms to address non-criminal deviant behaviors.

Looking at the effects of the neighborhood-level variables on the overall time period in relation to both outcome measures, the findings for both neighborhood disadvantage and mobility were weaker than expected. Contrary to hypotheses derived from social disorganization theory and the extant literature regarding the effect of neighborhood disadvantage on parolee outcomes (Hipp et al., 2010; Kubrin & Stewart, 2006), the level of neighborhood disadvantage failed to elicit an effect on overall measures of general reincarceration and TPV reincarceration taking place within the study period (i.e., three years following release) (Table 6.1).

Table 6.1.
The Effects of all Neighborhood-Level Variables on all Dependent Variables.

	Reincarceration				TPV Reincarceration			
	Overall	Time 1	Time 2	Time 3	Overall	Time 1	Time 2	Time 3
Disadvantage	×	×	×	×	×[38]	×	+[39]	×
Mobility	×	×	×	+	+[40]	×	×	+
EP	+	+	+	+	+	+	+	+
EP x Dis	×	×	×	×	×	×	×	×
Bridging	×	×	×	×	×	×	×	×
Bridging x Dis	×	×	×	×	×	×	×	×
GSPs	+	+	×	×	+	+	×	×
GSPs x Dis	×	×	×	×	×	×	×	×
DOC SPs	×	×	×	×	×	×	×	×
DOC SPs x Dis	×	−	×	×	−	−	×	−

+ indicates the independent variable had a positive and significant effect on the odds of the outcome variable.
− indicates the independent variable had a negative and significant effect on the odds of the outcome variable.
× indicates the independent variable did not have an effect on the odds of the outcome variable.

[38] Disadvantage was found to be a significant predictor of the odds of TPV reincarceration (positive); however, this was only in the models including bridging churches, GSPs, and DOC SPs, along with their disadvantage interaction terms, showing a suppression effect.
[39] Once the bridging churches and EP churches, as well as their interaction terms with disadvantage, were included within the model, the effect of disadvantage on the odds of TPV reincarceration was no longer significant.
[40] Mobility was found to be marginally significant and significant in some models (Table 5.9).

One reason that these null effects may have emerged could be due to the neighborhoods included in this study's sample. Nearly half of the sample neighborhoods (48.8%) meet Wilson's (1989) criteria for extreme disadvantage or ghetto poverty. Ghetto poverty has been defined as neighborhoods in which at least 40% of residents live below the poverty line (Wilson, 1989). Due to the abundance of neighborhoods within the sample that exhibit extreme levels of poverty and other measures of socioeconomic disadvantage, there may not be enough variation in these measures to elicit an effect on parolee outcomes.

Residential mobility was also found to have relatively weak effects, being non-significant in the overall general reincarceration models and having only marginally significant effects in most of the overall TPV reincarceration models. The exception to these weak effects was in the TPV model that included Evangelical Protestant churches. In this model mobility attained significance, increasing the odds of TPV reincarceration. For example, a one standard deviation increase in the level of neighborhood mobility was associated with a 13% increase in the odds of TPV reincarcerations occurring within three years of release from prison (i.e., the study period). Here, as predicted by social disorganization theory, residentially mobile neighborhoods may have fewer established networks, and thus may be less capable of exerting informal social control, as well as connecting community members with needed social capital.

These findings add to the previous, albeit sparse, findings regarding the influence of residential mobility/stability on parolee outcomes. For example, Stahler and colleagues (2013) found that neighborhood mobility did not have an effect on reincarceration. In consideration of the other side of the spectrum, Hipp and colleagues (2010) found that stability within adjacent tracts reduced the odds of parolee reincarceration; however, stability within a parolee's own tract did not influence the odds of reincarceration. Dissimilarities in findings may be the product of

previous studies failing to disaggregate reincarceration to separately examine TPV reincarcerations

The effects of disadvantage and mobility, however, were found to vary somewhat across time periods. The potential for the effects of these key neighborhood structural variables to vary during different time period of parole has not been accounted for in the previous literature. Although neighborhood disadvantage did not have an effect on overall reincarceration in any of the time-based models, disadvantage was associated with a 25% increase in the odds of TPV reincarceration during Time 2. This finding suggests that within extremely disadvantaged neighborhoods, weakened controls and lack of resources may be particularly harmful to parolee success during six months to one year following release. Again, the lack in the effects of disadvantage on parolee outcomes may be an artifact of the large number of sample block groups having higher levels of socioeconomic disadvantage.

Although mobility did not have an effect on parolee failure taking place within the first year of release (Time 1 and Time 2), mobility was found to increase the odds of both general reincarceration and TPV reincarceration during Time 3 (one to two years following release) by approximately 15% and 19%, respectively. These findings indicate that the effects of disadvantage and mobility on parolee outcomes were strongest after the parolee had been in the community for at least six months (Time 2 and Time 3). One of the reasons for this delay in the effects may be that only 66 parolees (2.1%) were reincarcerated within six months following their releases from prison. Due to the few number of parolees returning to prison during this time, detection of neighborhood-level effects may be especially difficult.

Second, over one-half (56.9%) of parolees within the sample were released to a secured corrections center or facility (i.e., CCC, CCF). While residing in secured facilities, neighborhood

context would not have an effect on parolees' behaviors, as they are sequestered within the walls of the facility. Although parolees who were reincarcerated while residing at a center were not included within the sample, it is likely that many parolees who were reincarcerated at Time 1 and who were released to a center (42% of those reincarcerated during Time 1), had not resided at the address where they failed from for very long. Due to the short tenure within the neighborhood, the effects of informal social control are not expected to be fully realized by these parolees.

Third, during the first six months following release from prison, parolees may have more frequent contacts with parole officers and have more access to resources. However, supervision and resources may dwindle over time, resulting in diminished supervision, formal controls, and access to social capital and resources. Because of this, one would expect that neighborhood conditions would have a greater effect in later phases in parolee supervision.

Next, based on the analyses, findings from the current study suggest that TPVs are more influenced by neighborhood context, whereas environment appears to have less of an impact on general reincarceration outcomes. TPVs were not convicted of new offenses, but rather included parolees who were reincarcerated as the result of failing to maintain their conditions of parole releases. In light of Goffman's (1961) total institutions, it is arguable that parolees are accustomed to the all-encompassing and totalistic control of prisons (see also Clear, 2007; Thompson, 2008), and therefore, may benefit from intermediate neighborhood controls. Whereas formal controls (e.g., police officers, parole officers) may be more salient to would be offenders (e.g., CPVs), neighborhood conditions resulting in low informal social control may be more relevant to would be technical violators. Lack of neighborhood controls may allow for the opportunity of parolees to engage in mischief and other activities more directly related to conditions of parole.

The next set of key finding of the analyses pertain to the effects of different categories of churches on parolee outcomes. It was hypothesized that bridging churches would decrease the odds of general reincarceration and TPV reincarceration, as bridging churches are more likely to engage with community members and the larger community. Alternatively, it was hypothesized that Evangelical Protestant churches would not have an influence on parolee outcomes, as this type of church is generally congregationally oriented, rather than oriented to the larger community or non-members. Based on analyses, both of these hypotheses were rejected. Specifically, bridging churches had no effect across any of the models tested for either general reincarceration or TPV reincarceration. Additionally, the number of local EP churches within a neighborhood increased the odds of parolee reincarceration and TPV reincarceration, regardless of the level of neighborhood disadvantage. This was surprising, and contrary to expectations regarding the effects of churches on parolee outcomes, yet, this is the most consistent finding among the level-two variables.

The effect of EP churches on TPV reincarceration was twice as great as the effects on general reincarceration (10.0% and 4.9%, respectively), indicating that reincarceration for technical parole violations were more sensitive to the number of EP churches within their neighborhoods. Moreover, the effect of EP churches on the odds of TPV reincarceration remained constant across all three timeframes (increased odds of 9.5%-10.0% for each additional EP church). These effects were weaker and less consistent on general reincarceration (increased odds of 2.8%-9.0% for each additional EP church).

The positive effects of EP churches on parolee reincarceration and TPV reincarceration aligns with the moral communities thesis, as well as the previous literature regarding positive effects of EP churches on both violent and property crime rates (Desmond et al., 2010; Triplett et

al. 2013). When considering why these findings may emerge, it is possible that the increased odds of parolee reincarceration for those residing in close proximity to EP churches operates regardless of parolee behaviors, and rather is an artifact of EP congregations. Although, extending resources and aid to community members is central to the mission of bridging churches, this theology does not extend to EP churches (Beyerlein & Hipp, 2005; Putnam, 1995). Within EP congregations there may be a strong denunciation of offending and deviance, in which members may be striving towards preserving the livelihood and wellbeing of congregants, rather than extending resources and social capital to parolees. Due to this orientation, EP congregants may be more likely to engage agents of formal control (e.g., police officers, parole officers) to address problems (Triplett et al., 2013) instead of attempting to remedy these problems themselves. In turn, this may lead to an increase in the number of contacts between parolees and the criminal justice system, and subsequently, result in a greater number of reincarcerations. The lack of resources available to non-members, coupled with the inward-looking and tight-knit theology of EP churches, may explain why parolees residing near these churches experience elevated odds of reincarceration.

The next set of important findings were with regard to the effect of service providers on parolee outcomes. In the models examining the entire timeframe, general service providers had a significant (TPV) or a marginally significant (general) positive effect on reincarceration. This effect for both types of reincarceration were significant and positive at Time 1, but the effects were not significant at any other timeframe. These findings indicate that although an increase in number of GSPs within a parolee's neighborhood increased the odds of general and TPV reincarcerations, this effect was limited to the first six months following release.

The effects of DOC service providers were markedly different. Although there were no significant main effects for DOC service providers, there were significant interaction effects with disadvantage, such that the effects of DOC service providers decreased the odds of reincarceration in more disadvantaged neighborhoods. These moderation effects were found for TPV reincarceration when examining the overall time period, Time 1, and again during Time 3. For general reincarceration, the moderated effect of DOC service providers was also significant, but only during Time 1. Here, although an increased number of DOC SPs in disadvantaged neighborhoods decreased the odds of parolee reincarceration, this effect was stronger and more consistent in TPV reincarceration models. These findings suggest that services offered by DOC service providers may be more valuable in disadvantaged neighborhoods, and moreover that these service providers are more instrumental in decreasing the likelihood of reincarceration among would be technical violators.

One may question, "Why do GSPs increase the odds of reincarceration, while DOC SPs do not elicit the same effects?" First, one possibility for the variation in the effects of GSPs and DOC SPs is that parolees may rely on the information disseminated to them in their pre-release manuals. PA-DOC has an extensive pre-release plan, with several points of contact with soon to be parolees, beginning eight months prior to release. Information regarding DOC referred service providers is readily available to parolees, and includes information regarding fees, services, and eligibility for each provider listed. Approximately 98% of parolees within the sample were required to attend treatment or programs as one of their parole conditions, in which failure to attend treatment or programming had the potential to result in parole revocation and reincarceration. Because the DOC has approved these service providers, parolees may be more inclined to go to DOC SPs as they recognize that these service providers meet the criteria needed

for their conditions. Moreover, close proximity to DOC referred service providers may make it easier to access treatment, programming, and resources, while maintaining this condition of their releases.

Next, the differing effects of these service providers on parolee outcomes may be the result of how parolees view these categories of service providers. Although GSPs provide services to parolees, they operate in a sphere that is independent of law enforcement and the Department of Corrections. Conversely, DOC service providers are referred to parolees by the DOC, which may result in real or perceived connections between DOC SPs and formal agents of control (e.g., police officers, parole officers, DOC staff), allowing them to act as an intermediate form of social control. Although DOC SPs are not necessarily formal agents of control, parolees may be more receptive to the recommendations and referrals given by DOC SPs because they fear that indiscretions or infractions known to these service providers may be reported, resulting in revocation. Furthermore, the locations of DOC SPs are listed within the prerelease manual distributed to all inmates prior to prison discharge. In neighborhoods where there are a greater number of DOC SPs, parolees may perceive greater risks in terms of engaging in criminal behaviors or violating the conditions of their releases. Again, it is argued that the perception of relationships between DOC SPs and formal agents of control may govern parolees' behaviors to remain in the bounds of their conditions of releases, whereas the absence of these connections for GSPs results in the failure of effecting parolees' behaviors.

Lastly, when considering the services provided by the two categories of service providers, GSPs may be less equipped to address the needs of parolees. Within the sample area 70% of GSPs had a primary focus on AODA services, although there were no GSPs that identified as being a mental health service or clinic outside the need for addiction services or

treatment. Of the DOC SPs, approximately one-half identified as primarily concerned with AODA services; however, another 35% had were focused on mental health services apart from AODA. It is possible that these services were more salient to parolees by addressing additional needs related to their offending.

The extant literature has argued that resource based institutions and services may lure potential offenders into neighborhoods where services are located (McCord et al., 2007; Triplett et al., 2013). With 70% of GSPs having a focus on AODA, it is possible that these services attracted more individuals who were struggling with addiction into the neighborhoods where services were located. Additionally, a greater number of GSP's clients may not be governed by parole conditions, nor are they subjected to regular drug and alcohol testing, which may in turn be related to periodic or continued use of non-parolee clients. The great number of AODA service providers within neighborhoods might allow for deviant networks to form between parolees and other clients receiving services within these areas. The formation of such networks may encourage continued alcohol or drug use, and consequently, result in parole revocation and reincarceration.

The effect of DOC SPs was limited to extremely disadvantaged neighborhood where neighborhood informal social control may be weakest. Furthermore, the moderation effects of DOC SPs by the level of neighborhood disadvantage aligns with findings from Hipp, Petersilia, and Turner (2010), in which they point to the limited accessibility of service providers in poor, Black neighborhoods due to the overwhelming need and lack of service providers. The conditional effects of DOC SPs by level of neighborhood disadvantage further highlights the need for service providers within such communities.

The final finding of interest surrounds the change in the effects of level-one variables on parolee outcomes overtime. Similar to the variation in the effects of neighborhood-level variables on parolee outcomes over time, the effects of individual parolee attributes also fluctuated based on the length of time following release. In the overall general and TPV reincarceration models, LSI-R score increased the odds of reincarceration, whereas parolees who identified as non-White how lower odds of reincarceration. Additionally, within the reincarceration model, age was associated with decreased odds of reincarceration. Considering each discrete timeframe, individual-level variables had the strongest effects in the initial stages of parole supervision (Time 1), in which, being male, having a person or violent target offense, and having a drug target offense are associated with of lower odds of general and TPV reincarceration (in addition to the variables discussed from overall models).

As time progressed, the effect of individual-level parolee attributes varied. During the six months following release, several individual-level characteristics predicted reincarceration; however, after the initial six months following release had passed age (Time 2) and LSI-R score (Time 2 and Time 3) were the only two variables associated with parolee outcomes. Although there were few individual-level effects, several neighborhood-level variables elicited effects on parolee outcomes during these later timeframes. These findings indicate that although individual-level variables have a stronger initial effect on parolee outcomes, neighborhood context does indeed have an effect on outcomes with the passage of time following release. As discussed, this may be due to supervision and access to resources declining over time, resulting in parolees relying on local controls and services.

Limitations and Future Research

As with any study, the current study has limitations that deserve attention. As stated in Chapter IV, parolee address data were delivered in the form of Census blocks, and included identification codes for the first and last block each parolee resided within. For analyses, each parolee's last known block was used, as this is where the parolee was residing at the time of parole deletion, regardless of the amount of time that had passed from release. For example, if a parolee was reincarcerated within one week of release, the address on record at the time of reincarceration was used (i.e., the last known address). Each parolee's block was then aggregated to the block group level to allow for the examination of neighborhood-level effects on parolee outcomes.

Two main areas of issue surround the assignment of parolees to block groups, and may limit the findings from this study. First, it is unknown how long parolees were living at the final address before parole deletion. The effect of neighborhood variables may have differing effects based on the length of tenure within a neighborhood or by the number of times a parolee moved while under supervision. In order to obtain a better understanding of parolees' residential movements, the number of moves reported for each parolee within the sample was examined. Within the sample, the average parolee had 2.47 addresses ($s^2 = 2.59$). Additionally, 56.9% of parolees were released to a CCC/CCF, and consequently, if parolees were not discharged from parole or reincarcerated from the CCC/CCF they would be required to have at least one additional address. This was affirmed, with parolees released to CCC/CCFs reporting on average one more address ($\bar{x} = 2.87$; $s^2 = 2.61$) when compared to those released directly to the street ($\bar{x} = 1.94$; $s^2 = 2.07$). The low mean number of parolee addresses, coupled with the large number of

parolees released to CCCs/CCFs may indicate that parolees held fairly stable tenure at their residences.

Second, parolees face restrictions involving where and with whom they can reside. For example, in the state of Pennsylvania, felons are unable to reside in section VIII designated housing units (Philadelphia Housing Authority, 2017). It is possible that parolees may report an acceptable address to their parole officer; however, in reality, are living at a different residence. In this case, the neighborhood effects of their true residence were not tested. To further examine contextual effects on parolee outcomes, it may be advantageous for future analyses to consider parolee mobility and residential tenure throughout parole supervision terms.

The third limitation of this study pertains to sample selection. Because of the multilevel nature of this study, sample parolees were required to reside within a block group that had a minimum of 10 parolees residing within the boundaries during the study period. This resulted in the deletion of 3,700 parolees from the sample. T-tests were used to examine differences between block groups and parolees included within the sample versus those that were not included within the sample. T-tests showed that there were significant differences between sample parolees and block groups compared to those excluded from the sample. Because the sample and non-sample differ on demographic information, it is possible that these findings may not be able to be generalized to more affluent neighborhoods or block groups with a smaller number of parolees. Although future research may benefit from considering the effects of neighborhood context in more affluent neighborhoods with fewer parolees, it may be most important to continue examining neighborhoods where larger numbers of parolees return to.

Lastly, there may have been neighborhood and parolee characteristics that effected parolee outcomes that were not included in analyses. During Time 2, there were few variables

found to have an effect on parolee outcomes, although the ICC for reincarceration (.084) and TPV reincarceration (.124) indicated moderate neighborhood-level variation. Additionally, LSI-R score was the only individual-level variable found to effect parolee outcomes. This may indicate that there are environmental and individual-level characteristics influencing parolee outcomes that were not included within the models. Future research should strive to identify additional neighborhood characteristics and institutions that may affect parolee outcomes.

Policy Implications

Due to the great number of parolees returning to terms of reincarceration, every attempt should be made to minimize the churning of offenders from prison to community, and then back to prison. Recidivism among parolees is damaging to offenders, their families, potential victims, and the tax paying community. This study found that although several neighborhood-level characteristics were associated with increased odds of parolee reincarceration, increased numbers of DOC SPs in extremely disadvantaged neighborhoods were successful in decreasing the odds of reincarceration.

When considering where DOC service providers were located, it was found that within the block groups identified as extremely disadvantaged (n = 36), the average block group had 0.58 DOC SPs, and ranged from zero to three DOC SPs across extremely disadvantaged block groups. In less disadvantaged block groups (i.e., those scoring less than 1 standard deviation above the mean score of disadvantage) (n = 173), there was a greater prevalence of DOC service providers, with the average block group having 0.75 DOC SPs and the number of DOC SPs ranging from zero to 10 across less disadvantaged block groups. The ability of DOC SPs to mitigate reincarceration within extremely disadvantaged neighborhoods should be at the forefront of discussion when implementing strategies and deploying resources related to parole.

Due to findings suggesting that DOC SPs may be particularly instrumental to the success of parolees in extremely disadvantaged neighborhoods, efforts should be made to increase the number of DOC service providers located in these neighborhoods.

In Pennsylvania, the annual cost of incarceration per one inmate is $36,559, whereas the annual cost of community supervision for one parolee is $351 (Subramanian & Tublitz, 2012). In terms of federal spending, "one out of every 14 general fund dollars spent in 2000 was spent on prisons" (Greene & Schiraldi, 2002, p. 1). It would be advantageous for state and federal budgets to direct funding for DOC SPs to disadvantaged neighborhoods, with the aim of increasing accessibility of services to offenders living within these neighborhoods. As discussed, parolees often reside within a small number of poor, disadvantaged neighborhoods (Harding, et al., 2012; Kubrin & Stewart, 2006; Solomon et al., 2004). Therefore, targeting such areas with resources and services may decrease reincarceration of parolees. During the pre-release stage, it may be beneficial for parole officers to consider access to resources across different neighborhood environments when creating parolees' "home plans." Lastly, neighborhood context and proximal resources should be assessed during home visits, as well as in instances when parolees request to relocate to different residences.

Conclusion

The findings from this study suggest that neighborhood context somewhat effects the odds of parolee reincarceration, although these effects were often specific to the reason for reincarceration and time period. Parolees who were reincarcerated as the result of a TPV, as well as parolees reincarcerated after six months following release were the most likely to be effected by neighborhood constructs. Although an increase in the number of DOC SPs in extremely

disadvantaged neighborhoods decreased the odds of parolee reincarceration, Evangelical Protestant churches and GSPs were associated with increased odds of parolee reincarceration.

These findings offer partial support for the extension of social disorganization theory to parolee outcomes, although the effects of neighborhood structural variables were much weaker than expected. The findings from the current study indicate that the level of neighborhood mobility, and especially, the level of socioeconomic disadvantage may not have a substantial impact on the odds of parolee failure, particularly given the high levels of neighborhood disadvantage that most parolees return to. Therefore, the degree to which these neighborhoods exhibit even higher levels of disadvantage may not matter, indicating a ceiling effect. Future research should continue to actively pursue the identification of additional neighborhood characteristics that may influence the odds of parolee reincarceration or successful terms of parole supervision. Furthering our understanding of how neighborhood-level and individual-level parolee attributes are interconnected with one another may allow for the development of parole supervision strategies that are effective in decreasing the number of reincarcerations and instead increase the number of successful parolee discharges.

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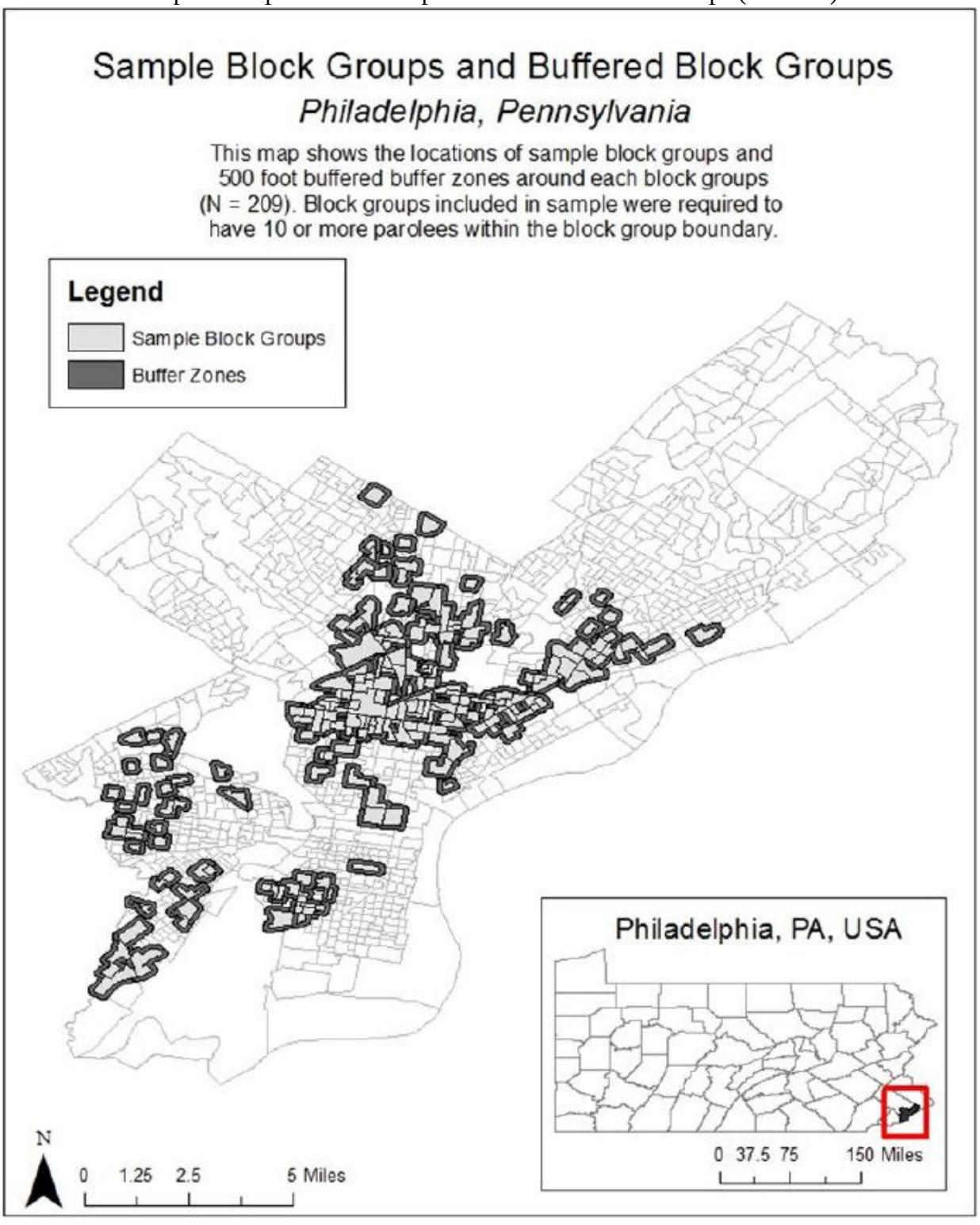
APPENDICES

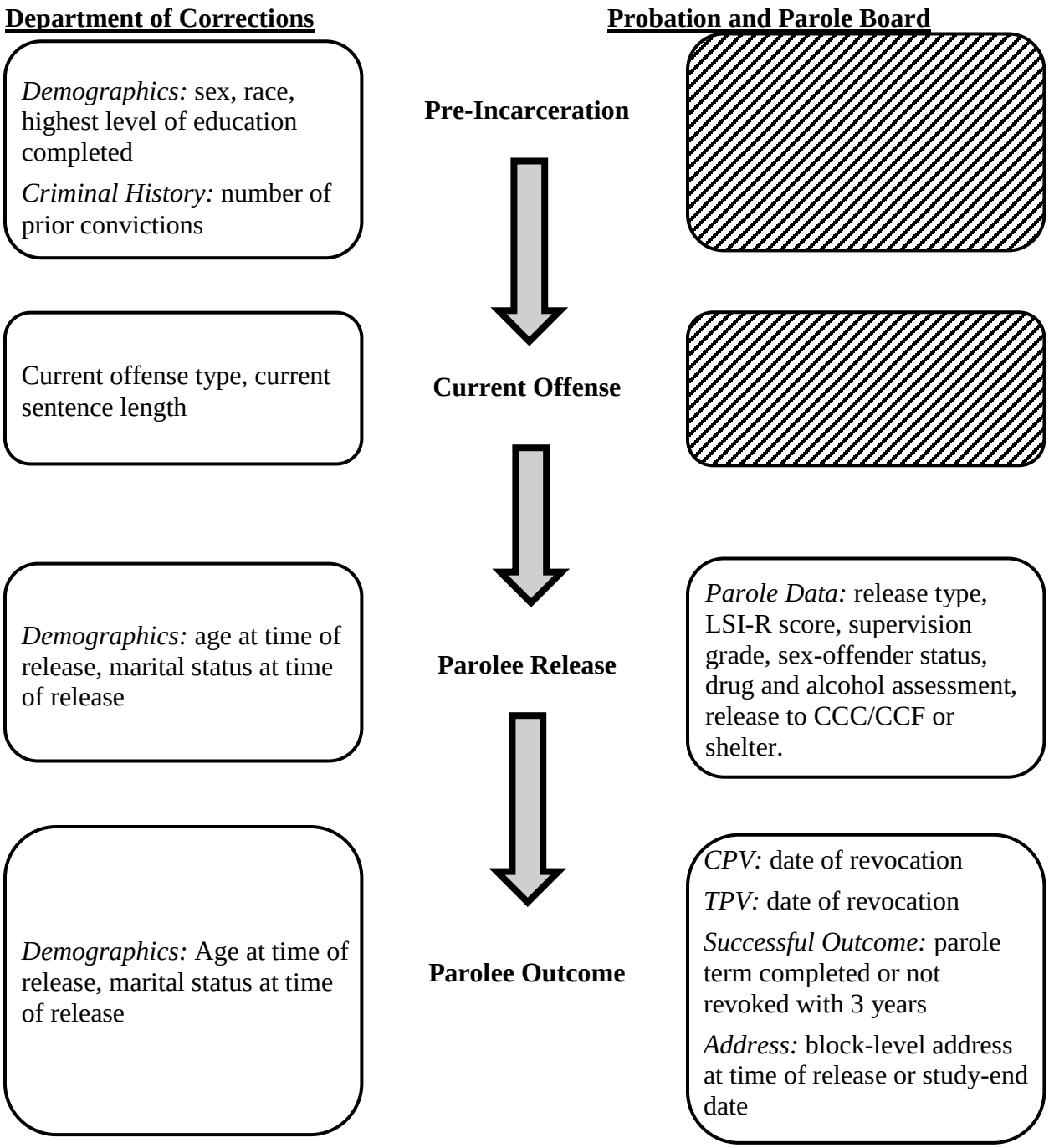
Appendix A

Map of Sample Block Groups and Buffered Block Groups (N = 209)



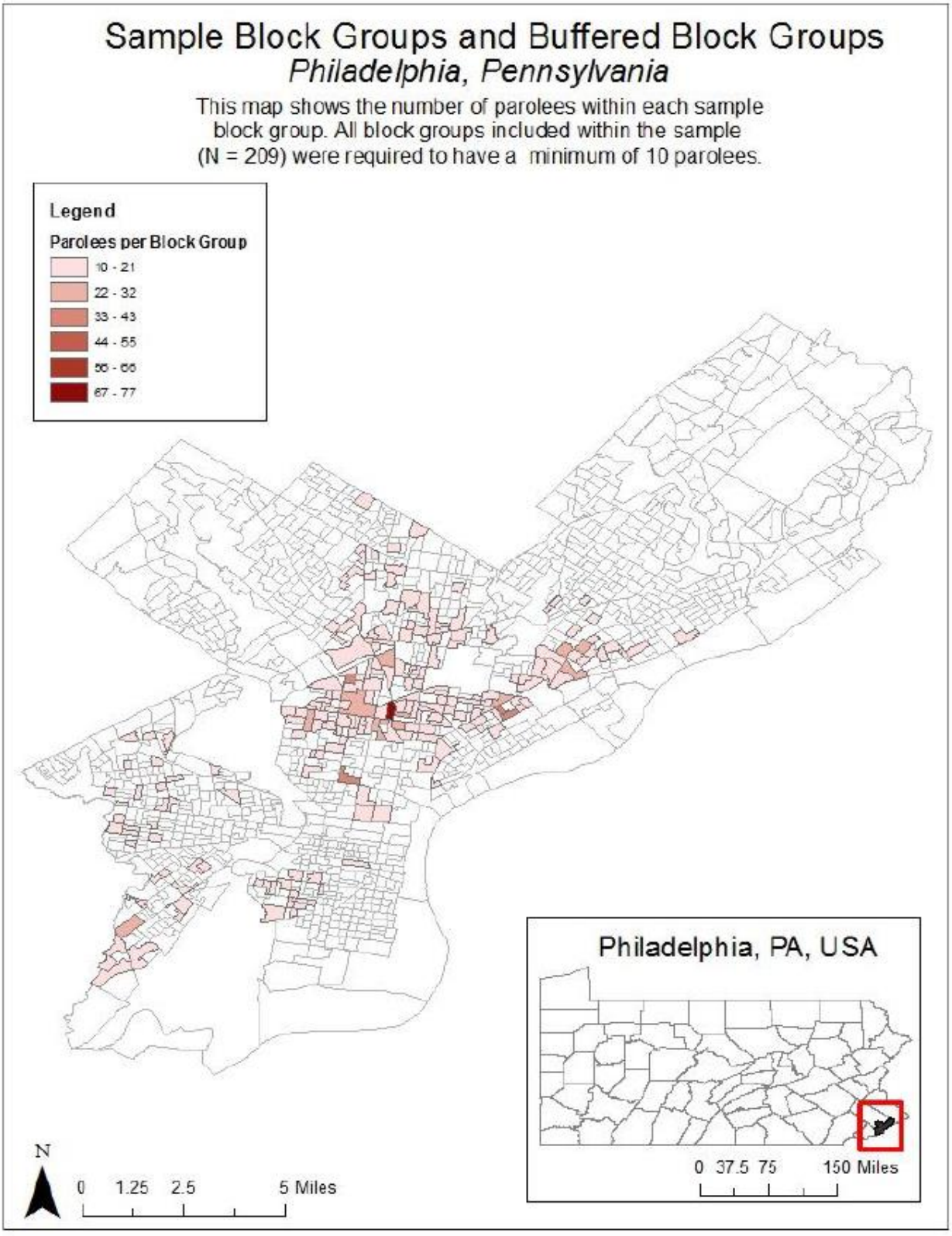
Appendix B

Agency of Origin of Parolee Data



Appendix C

Map of the Frequency of Parolees within Sample Block Groups (N = 209)



Appendix D

T-Test Results for Sample and Non-Sample Level-One Variables

	Sample $\bar{x}$	Non-Sample $\bar{x}$	T
Sex	0.94	0.90	6.762***
Age	36.10	36.23	-0.643
Non-White	0.92	0.51	44.456***
High School Grad	0.49	0.61	-12.860***
Felony	0.89	0.79	13.872***
LSI-R	25.02	26.51	-8.892***

***p < .001; **p < .01; *p < .05; †p < .10

Appendix E

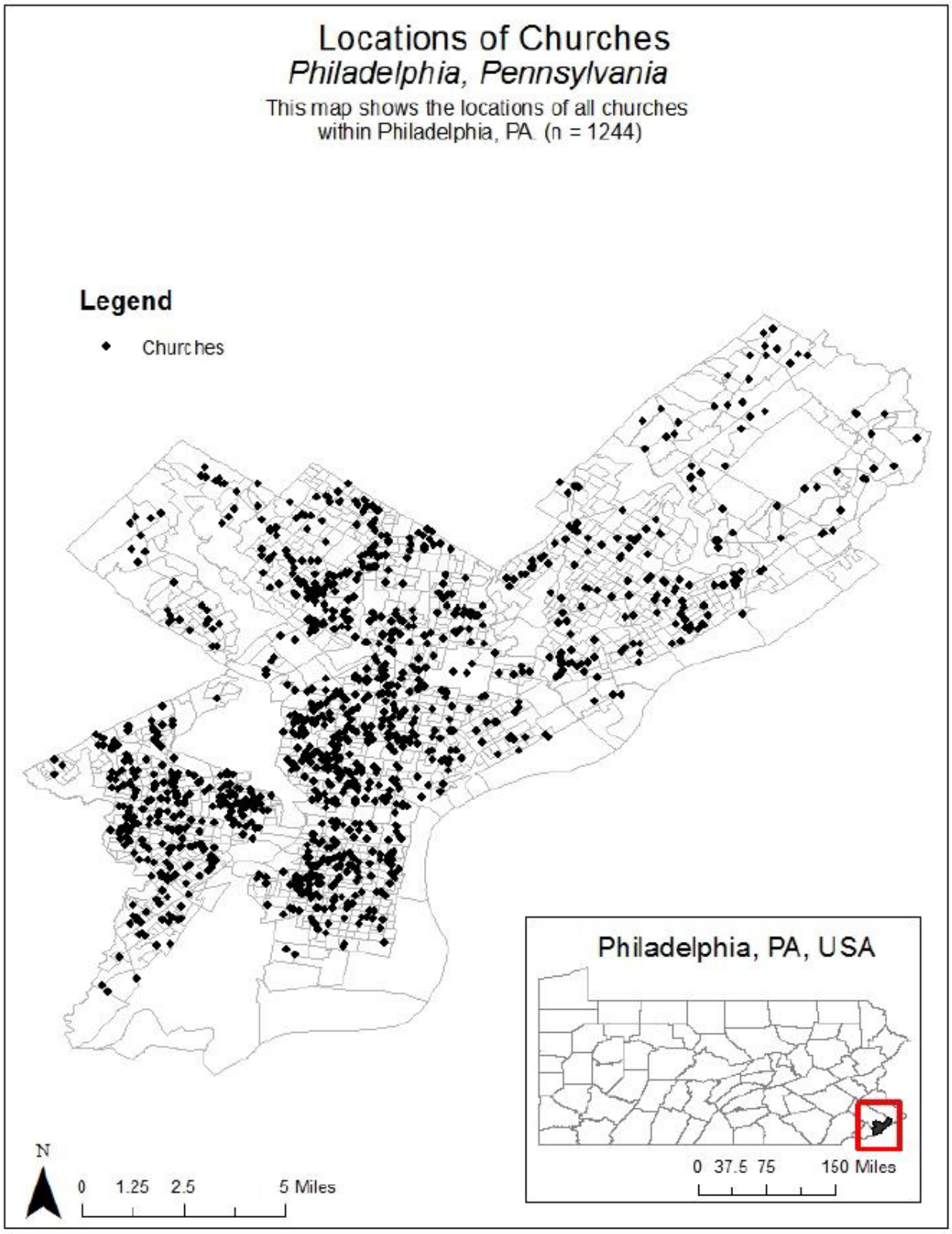
T-Test Results for Sample and Non-Sample Level-Two Variables

	Sample $\bar{x}$	Non-Sample $\bar{x}$	T
% below poverty line	41.16	24.66	12.044***
% receiving food stamps/SNAP	43.96	24.02	14.249***
% Female Headed Households	29.21	15.91	5.415***
% High School Graduate	72.12	84.79	-10.649***
% Unemployed	23.65	15.07	9.743***
% Non-White	83.74	56.72	10.866***
% Moved in last 5 years	24.60	24.97	-0.323
% Renter	51.30	44.95	3.773

***p < .001; **p < .01; *p < .05; †p < .10

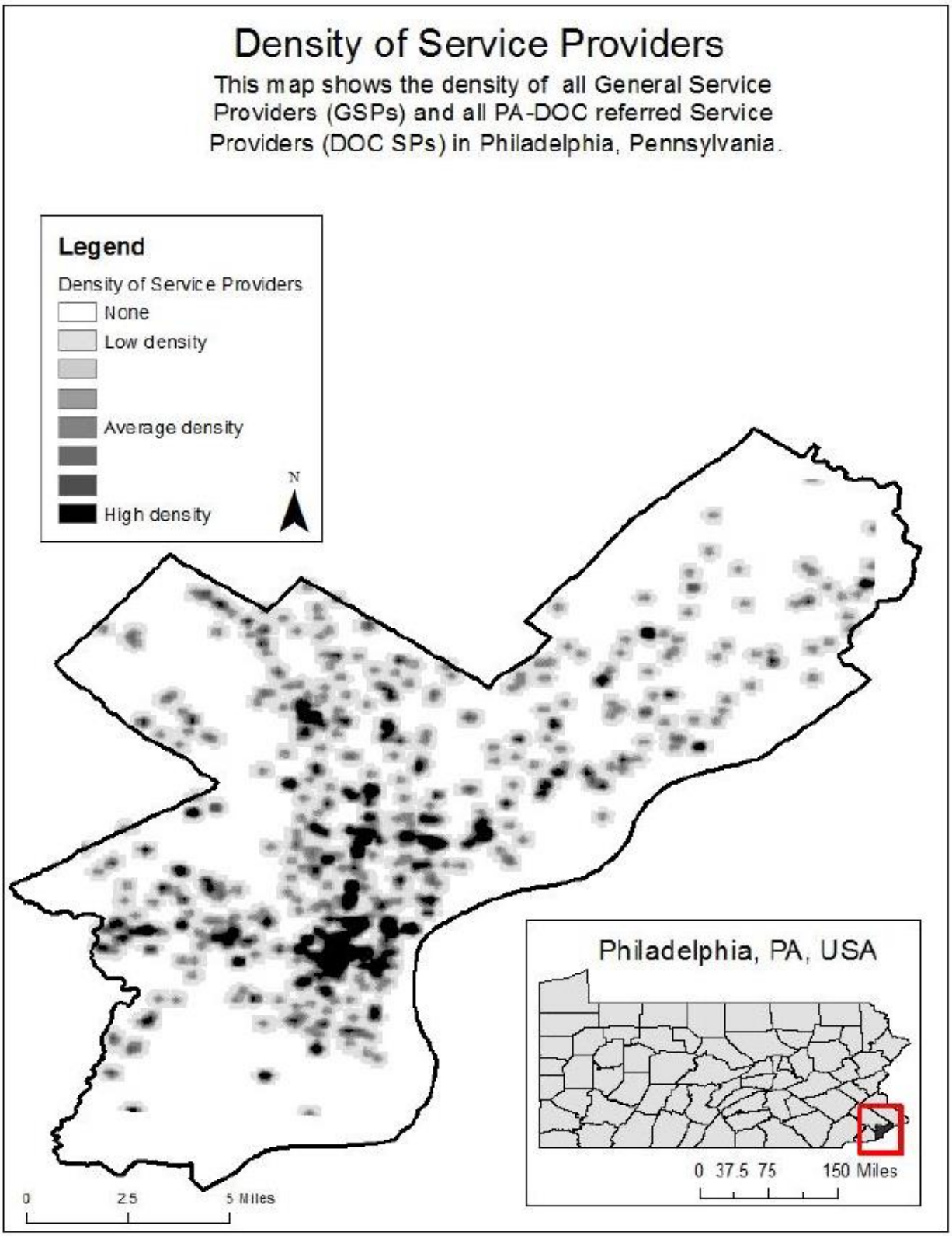
Appendix F

Map of All Church Locations in Philadelphia, Pennsylvania (N = 1,244)



Appendix G

Densities of Service Providers in Philadelphia, Pennsylvania



Appendix H

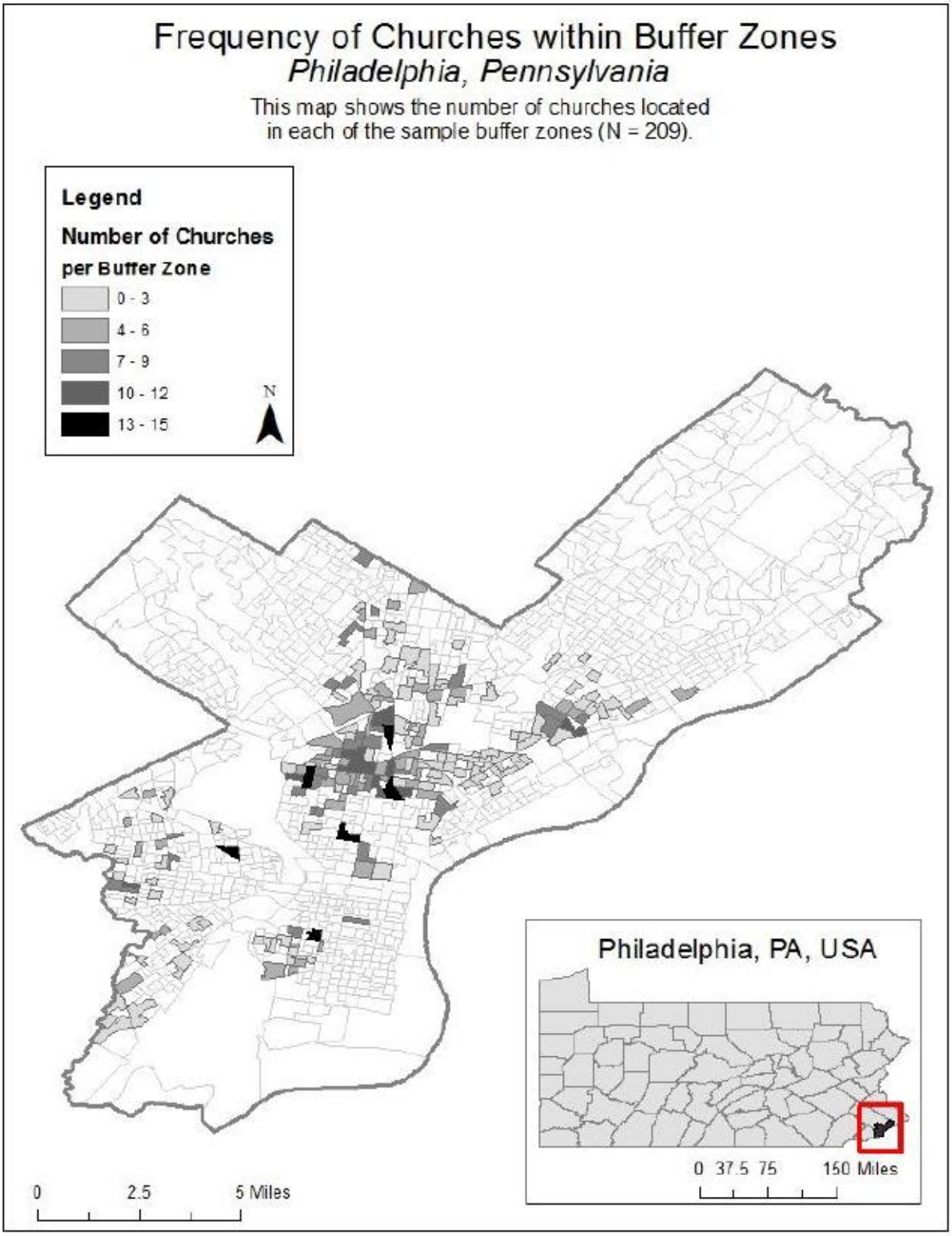
Delete codes for paroles in Philadelphia, Pennsylvania[41]

Delete Code	Definition:
40	Convicted Parole Violator (CPV) Recommit
41	Technical Parole Violator (TPV) Recommit
42	Convicted Parole Violator (CPV) Recommit
43	Maximum Sentence Expiration (offender "maxed out" of supervision)
44	Administrative Closure (Unsuccessful)
45	Administrative Closure (Successful)
46	Early Discharge/Commutation/Pardon
47	Death (Non-Criminal)
48	Death (Criminal Activity)
50	Opened in Error

[41] Table and codes provided from PBPP.

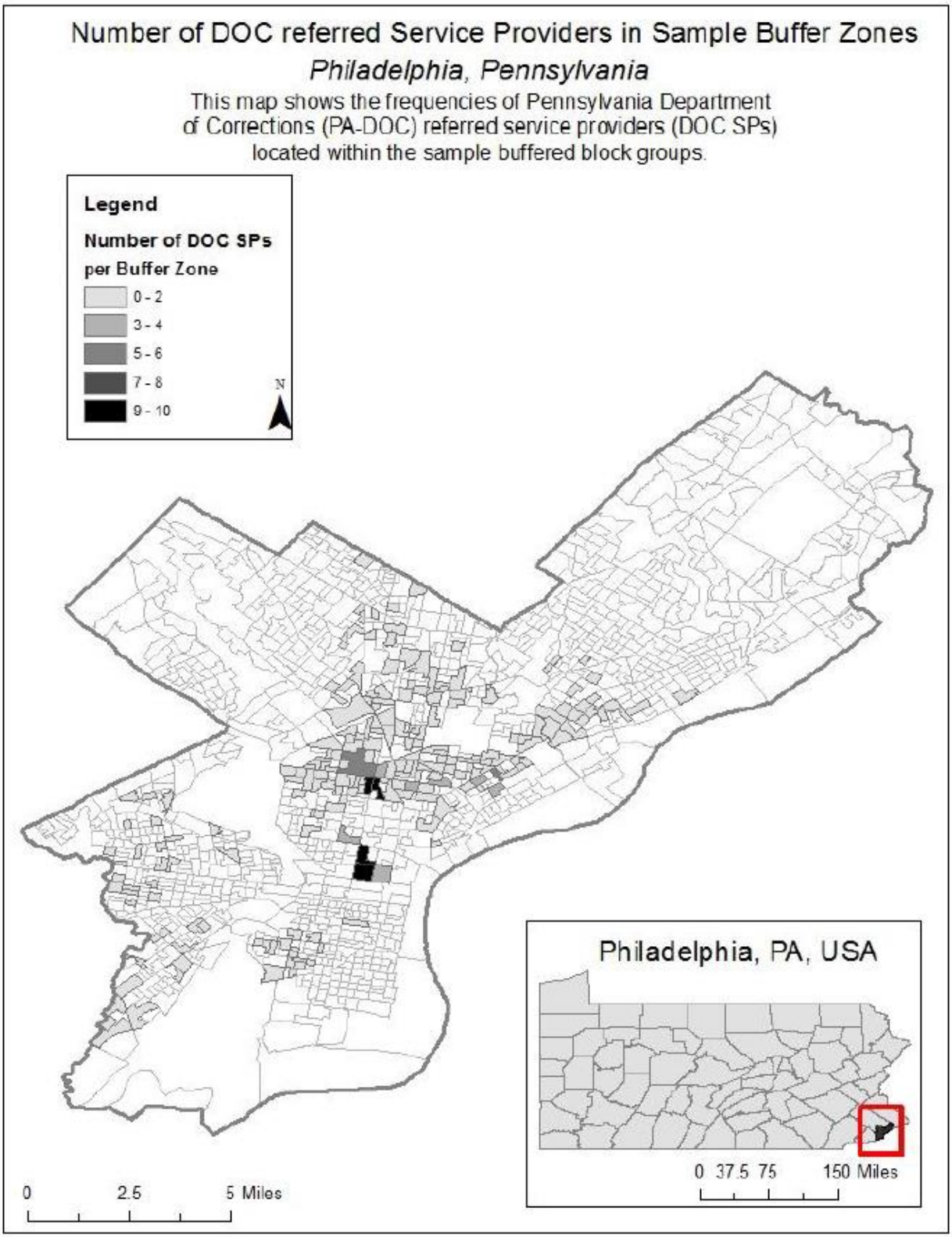
Appendix I

Frequencies of Churches Located within 500 Feet of Sample Block Groups.



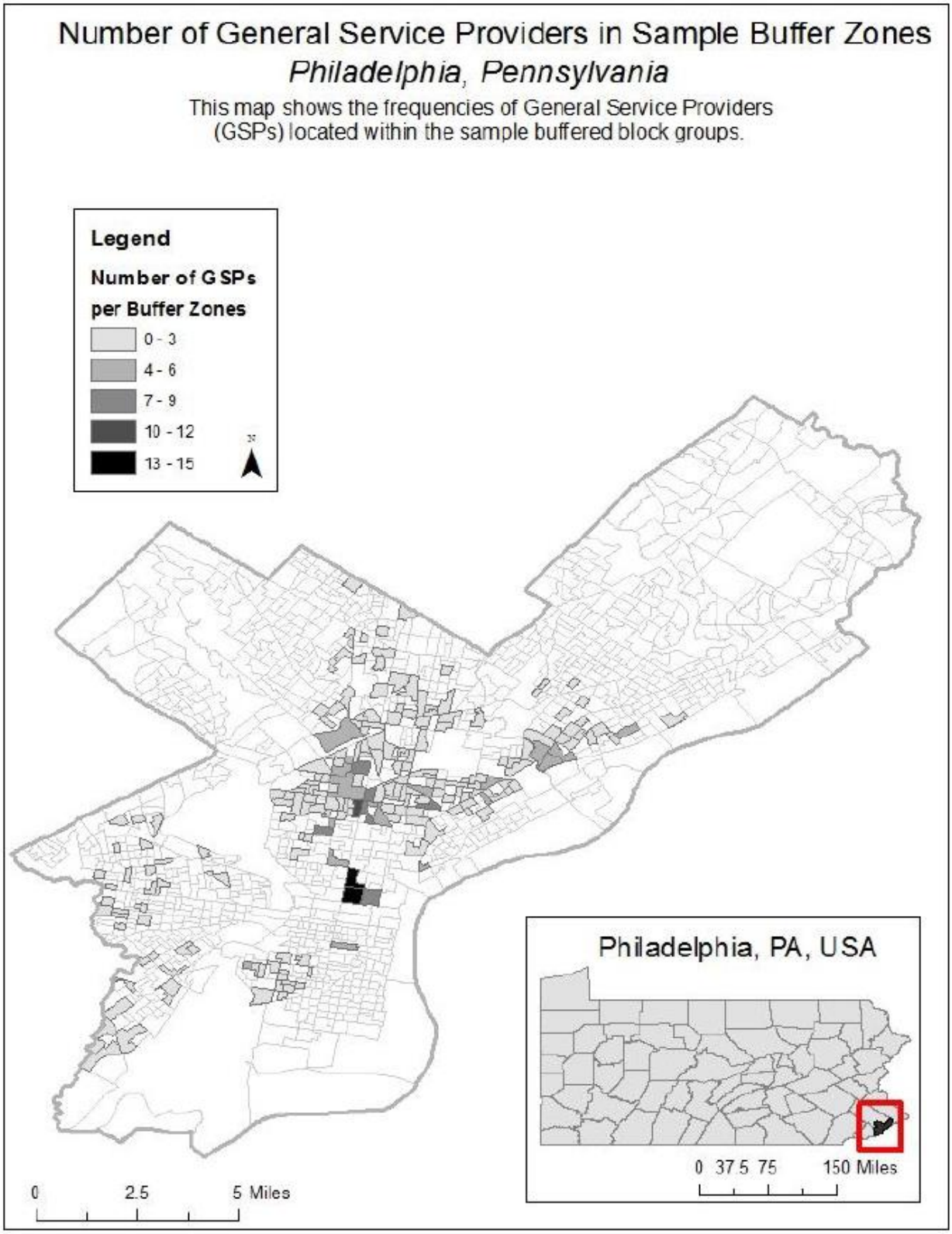
Appendix J

Frequencies of DOC SPs Located within 500 Feet of Sample Block Groups



Appendix K

Frequencies of GSPs Located within 500 Feet of Sample Block Groups



Appendix L

Binomial Logistic Regression Results of Individual-Level Predictors on Parolee Outcomes

	Reincarceration	TPV Reincarceration
Intercept	-.989***	-1.921***
	(.050)	(.068)
Male	.106	-.253
	(.202)	(.267)
Non-White	-.369**	-.421*
	(.131)	(.192)
Age	-.024***	-.006
	(.004)	(.005)
Single	.085	.059
	(.133)	(.168)
Person	-.056	.171
	(.100)	(.129)
Drug	-.200*	-.231†
	(.101)	(.134)
LSI-R	.034***	.034***
	(.006)	(.007)
CCC/CCF	.091	.138
	(.096)	(.135)

***< .001; ** < .01; *< .05; †< .10

VITA

Rebecca Ann Headley was born and raised in Minneapolis, Minnesota. In 2006, she began her undergraduate coursework at the University of Wisconsin-Milwaukee (UWM). In 2009, Rebecca was awarded a B.S. degree in Criminal Justice, and minored in both Psychology and Sociology. Following the completion of her undergraduate course work, Rebecca continued her studies at UWM, and graduated with her M.S. in Criminal Justice in 2011. Next, Rebecca pursued her doctoral degree from the Department of Criminal Justice and Criminology at Georgia State University. This dissertation marks the completion of her coursework, and Rebecca will graduate with her Ph.D. in August, 2017.

Currently, Rebecca is an Assistant Professor at her alma mater, UWM, in the Department of Criminal Justice. As part of the Helen Bader School of Social Welfare, she continues to study the effects of neighborhood context on parolees, crime, and a variety of social outcomes. Additionally, she enjoys teaching courses focused on spatial analysis and criminological theory. Her mailing address at UWM-Helen Bader School of Social Welfare is P.O. Box 786, Milwaukee, WI 53201.